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UNIVERSITY OF ALBERTA

EVALUATION OF A HOME STUDY PROGRAM

BY

MAUREEN BAUMAN ©

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND
RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF EDUCATION
IN

ADULT AND HIGHER EDUCATION

DEPARTMENT OF ADULT CAREER AND TECHNOLOGY EDUCATION

Edmonton, Alberta

Fall, 1992

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled EVALUATION OF A HOME STUDY PROGRAM submitted by MAUREEN M. BAUMAN in partial fulfillment of the requirements for the degree of MASTER OF EDUCATION in ADULT AND HIGHER EDUCATION.

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Date: Oct 6/92

ABSTRACT

Distance delivered courses provide an opportunity for adult learners to study at their own pace, in their homes. Rural Albertans have participated in a Home Study program, offering agriculturally based, non-credit courses since 1973. Questions about the effectiveness of the courses, learning style and demographic characteristics of students, and suggested course improvements were investigated in this study.

In March, 1992, 996 questionnaires were sent to a stratified random sample of Home Study students. The results were used to develop a student profile, determine the learning style of students (using Kolb's Learning Style Inventory, 1986), assess how learners interacted with the learning materials, determine learner reaction to courses, and investigate the relationships between learning style and selected variables.

Responses indicated that learners are primarily male, with more than 10 years of farming experience, who have some university or technical training. When compared to a 1986 study (Ellis), Home Study courses are attracting more female students, and couples who work on the course together.

Learners indicated a high degree of satisfaction with the last Home Study course they took. They appreciated being able to keep the binder afterwards as a reference, working at home and at their own pace. More than half the respondents made some, or significant changes to their farm practices as a result of taking a Home Study course. When asked about possible course improvements, the two that rated highest were, including an index at the back of the binder, and providing

other resources such as videos. Students did not indicate a high degree of interest in establishing contact with an instructor or other students.

Analysis indicated that learners were distributed throughout all four learning styles, but the assimilative style was the most common. No significant relationships were found between learning style and; satisfaction with courses, amount of practice change and preference for learning alone or in groups.

The findings of this study provide information about a specific group of distance learners, taking non-credit courses. The results could be used to further investigate distance learners, the role of learning style in distance education, and student motivation in non-credit courses.

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Chapter One
The Problem and Setting

Introduction

Alberta Agriculture provides an educational service to Alberta farmers through a province wide network of professional home economists and agrologists. Contact with clients is primarily of a face to face nature, through office interviews, farm visits and over the telephone. Since 1973 the department has also offered a distance delivered educational program referred to as Home Study, covering a wide range of topics including Animal Health, Farm Home Planning, and Home Based Business. From the outset, the home study format has been popular with rural Albertans and has received considerable support from the agribusiness sector and rural news media. The Farm Home Planning and Animal Health courses alone attracted over 5000 registrants each in the first year. There are currently 15,000 people on the active mailing list; which includes current and past learners who want to receive course updates and new course information.

Home Study courses are print based but often incorporate other educational methods such as in-person contact with specialists, video tapes and computer programs. All courses are non-credit, although some courses include an optional final exam with a certificate of achievement for passing grades. Currently, courses are developed by a committee of content specialists and educational advisors, and are marketed to rural clients. Students may purchase a course any time of the year.

Both the University of Alberta and the Rural Education and Development Association (REDA) have had ties with the program While the Home Study Branch has often coordinated course development, marketing and evaluation, these

organizations have handled the registration fees and often the printing of course material. As a government agency, the Home Study Branch cannot generate revenue to offset costs. These outside agencies provide the collection function, even though setting course budgets is still a Home Study Branch responsibility.

While there is no formal system of support for these learners, such as tutors, the course material encourages students to contact their local Alberta Agriculture office, and access other resources within their community. Learners often contact the Home Study Branch with questions about course material and content clarification. The current study will explore how learners perceive the level of support they presently receive and if they have suggestions for improvements. In a recent study by Passmore (1988) learners indicated that support for completing the course was provided by significant others, family and friends. (p. 147) Another finding of the Passmore study was, the ten interviewees felt the self assessment questions and exercises were not an important evaluation of their learning. A Home Study evaluation conducted in 1986 by Ellis found that exams, certification and accreditation were not considered important to the respondents.

The current study will provide information about Home Study learners and their preferences to department staff and administrators. Information will be gathered regarding the level of support students prefer, how they used past Home Study course material, importance of exams and accreditation, and topics they would like to receive further study materials on. This information will be used to chart the future direction of the Home Study program.

Statement of the Problem

This research project is a formative evaluation of Alberta Agriculture's Home Study program; intended to provide information to those who will make decisions about the future direction of the Home Study program. An emphasis has been placed on learning styles to gain insight into the learning style preferences of Home Study learners.

Government agencies have been going through a period of downsizing. In the past few years Alberta Agriculture has cut programs and staff to meet budget requirements. In the process, each branch is examining their programs to determine their effectiveness, and examine ways of becoming more effecient. The information gathered in this study could be used as a basis for changing the look and focus of the Home Study program.

Research Questions

Evaluation theorist, Robert Stake (1973) identifies three types of information used in program evaluations; antecedent, transaction and outcome information. The research questions are organized to reflect these categories.

Research questions I - II, referred to as antecedent information, were developed to establish background information on Home Study students.

I. What is the demographic profile of current Home Study learners, and has the profile changed since the 1986 (Ellis) study ?

II. What learning style groups do Home Study learners represent, as defined by Kolb's Learning Style Inventory ?

Research questions III and IV were developed to assess how learners interact with the learning materials.

III. Which course format do Home Study learners prefer; workbook or reference type course material ?

IV. What resources, in addition to the written course material, would Home Study learners find beneficial ?

Research questions V - VIII, were developed to determine the reactions of learners and Alberta Agriculture staff to Home Study courses specifically and the Home Study program in general.

V. How satisfied are Home Study learners with the last Home Study course they enrolled in ?

VI. Did learners perceive a change in behavior as a result of taking a Home Study course ?

VII. What are the perceptions of Alberta Agriculture field staff and course developers towards the Home Study program ?

VIII. What improvements to the Home Study program do learners, field staff and course developers suggest ?

Research question IX investigated the relationships of learning style, and preferences reported by learners and selected variables.

IX. Is there a relationship between learning style groups, (as defined by Kolb's Learning Style Inventory) and level of satisfaction; preference for learning resources; and behavior change as a result of taking a Home Study course ?

Assumptions

An underlying assumption was defined to clarify an understanding of the study.

1. Responses on the questionnaire will be an honest reflection of the individual's thoughts and feelings.

Scope of the Study

The following statements define a specific focus for the study.

The study will be limited to individual Home Study learners who have taken a Home Study course within the past five years, for whom a current address is known, and are residents of Alberta.

Kolb's Learning Style Inventory is the only instrument that will be used to assess learning style, and learners will be identified as one of the four learning styles: accomodator, assimilator, converger, diverger. (Kolb, 1985)

Limitations

The following limitation will influence the degree to which the findings can be generalized to other Alberta Agriculture clients, and learners in other home study programs.

1. The population was limited to recent Home Study students, so may not reflect the needs and preferences of Alberta Agriculture clients in general.

Definition of Terms

The following definitions are provided for educational and technical terms used in this study.

Home Study Courses are print based educational materials, on various agriculturally related topics, designed and marketed by Alberta Agriculture, to rural Albertans.

Home Study Program refers to the collection of people and activities that are involved in preparing and marketing Alberta Agriculture Home Study courses to rural Albertans.

Demographic Profile refers to information about the learners' age, type and size of farm, number of years farming, and educational level.

Learning Style refers to " characteristic cognitive, affective and physiological behaviors that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment." (Keefe, 1987, p.5)

District Home Economist (DHE) and District Agriculturist (DA) refer to field staff personnel who are the delivery arm of most Alberta Agriculture educational programs and services. They are involved in all aspects of the program planning process, including needs assessment, design and delivery of educational activities, evaluation, and individual follow-up with learners.

Course Developers refer to both content area experts and course designers who work as a team to plan, design and write Home Study courses. This group includes both Alberta Agriculture staff and outside individuals.

Need for the Study

In a previous study by Ellis (1986) Home Study learners were characterized as likely to be male, younger, better educated, farming for fewer years, operating larger farms, and having higher gross sales than the average Alberta farmer. (p.15) Farm management and intensive crop management topics were of most interest to these learners. Respondents also saw a need for more courses of specific interest to women. Updating this profile is important, especially considering that in 1986 when the previous study was done, the majority of courses were farm production related. Since that time course offerings have been broader, including Wills and Estate Planning and Home Based Business, which have wider audience appeal.

In the 1986 study, less than two thirds of respondents worked through the course material, while ninety two per cent kept the material for future reference. Self quizzes were rated relatively high, with 64% agreeing they were useful. Exams, certification and accreditation were not considered to be important to the 1986 respondents. Passmore (1988) found in her study, the ten interviewees felt that correct responses to the self quizzes only indicated that the concept had been remembered, and because course material would be available to them afterwards, they placed little value in remembering the content. Courses developed in the past few years have moved from a more reference type of binder to a workbook style. This study will ask learners about the new workbook format, if they used the self quizzes, and if they would like to see a more formalized system of testing and accreditation.

Home Study learners do not have access to the same support mechanisms that face to face students do. "In non-credit home study, learner support is provided through significant others, family, and friends." (Passmore, p.147) In this evaluation, questions about the benefit of support groups, contact with specialists or a tutor, will be asked, to gain insight into who or what groups are important motivators for learners to complete the course and implement course material.

There has been little research on identifying learning styles of learners involved in non-credit courses, especially distance delivered courses to rural clientele. Several studies by Rollins (1989, 1990) identified learning styles of agriculture students in a high school setting. Using learning style information to design courses can be an important factor in meeting the needs of various types of adult learners, especially in distance delivered courses where it is often difficult to adapt existing materials to meet the needs of learners. (Beffa-Negrini, 1990) Keefe, (1982) also believes that learning style information can be a useful tool for individualizing

instruction: "Learning styles is unquestionably a primary component of the teaching-learning cycle, one that opens the door to a personalized approach to education. Style diagnosis gives a powerful new tool to educators who want to improve student learning." (Keefe, 1982, p. 53) Defining Home Study participants in terms of their learning style will provide useful information about the strategies these learners prefer, and will also indicate the distribution of Home Study learners among learning style groups.

Summary

This chapter addressed the general research problem of this study: to provide evaluative information about the Home Study program, and to provide information about the learning style preference of Home Study learners. The problem has been addressed through a series of nine research questions, and limitations have been identified. Pertinent definitions, assumptions and the need for the study have also been outlined.

The following chapter provides a review of the literature pertaining to the problem statement and the research questions. This review provides background for the study and identifies related research. The third chapter outlines the setting and design of the study, as well as the methodology used for data collection.

Chapter Two

Literature Review

Introduction

This study is a formative evaluation of Alberta Agriculture's Home Study Program, and will provide information about Home Study learners that can be used in the design, production delivery and promotion of future programs. A focus has been placed on learning styles, as defined by Kolb's Learning Style Inventory. The literature review for this evaluation includes the following subject areas: learning styles, and the application of learning styles in adult education, agricultural extension education, and distance education.

Learning Styles

The study of learning styles is a relatively new field of research (Jensen, 1987) that evolved out of concern that educational methods were too narrow, and a realization that not all learners thrived under the same learning conditions. Individualization, or designing educational programs to take into consideration the needs of the individual, prompted research and development in the area of learning styles. (Keefe, 1987; Bonham, 1988) Investigations regarding improving student learning focused not on which teaching approach is best, but which students did better under which conditions. (Cross, 1976)

The term learning style is interpreted in several ways by different authors. The general concept is, learning style is a hypothetical construct that reflects the way an individual collects, processes and assimilates information on a relatively consistent

basis. (Keefe, 1982) Lawrence (1984), in referring to the Myers-Briggs Type Indicator, outlines four components of the term learning styles:

1. Cognitive style - which refers to an individual's preferred pattern of mental functioning.
2. Patterns of attitudes and interests - which refers to stimuli that attract a students' attention.
3. The tendency of students to be attracted to learning environments that correspond with their own cognitive style, attitudes and interests, and avoid those that are not compatible.
4. A tendency for students to use certain learning tools and avoid others.

A definition by Keefe (1982) is also widely cited in the literature; "Learning styles are cognitive, affective, and physiological traits that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment." (p.44) Understanding styles can help explain the learning, as well as the teaching, process. (p.44) Smith (1982) identifies learning style as one of the three components of learning how to learn. (p.17) Addressing the three; learners needs, learning style, and training, will offer insight into how learners learn and lead to design of more effective educational programs.

Learning Style Theories

Learning style theories can be grouped into three general categories according to their primary emphasis; cognitive, affective and physiological. (Keefe, 1987; Claxton and Ralston, 1978). A brief description of each category, as well two theories that integrate several categories will follow.

Cognitive

The bulk of research on individual learning preferences has focused on cognitive styles. (Keefe, 1982) Cognitive styles are preferred ways of viewing the world; distinctive and consistent patterns of perceiving, organizing and retaining information. (Keefe, 1982 & Messick, 1976) Their function is to specify which information an individual will attend to. (Bonham, 1988) More than 20 dimensions of cognitive styles have been identified in the research, but the one that has been the most widely studied is Witkin's field independence and field dependence measures. (Bonham, 1988; Messick, 1976) Field dependent individuals approach the world in global terms and identify closely with their surroundings. Field independent individuals can more readily distinguish a figure from its background, and are more skilled at tasks that require analysis and differentiation. (Keefe, 1987; Messick, 1976 & Claxton & Ralston, 1978)

Affective

The second category of learning style theory is affective styles, which involve "personality traits that have to do with attention, emotion and valuing - with the processes of motivation." (Keefe, 1982 p.49) Because these styles are influenced by such a wide range of factors including, environment, parental, and peer pressure, the measures tend to be very subjective. (Keefe, 1982) Two instruments that are designed to measure affective style are: Conceptual Level measure, developed by David Hunt at the Ontario Institute for the Study of Education; and the I/E Scale measuring locus of control, developed by Julian Rotter. Studying the affective styles of

individual students can provide clues about what learning environment motivates that particular student.

Physiological

The third category addresses the physical learning environment. A major component of the Learning Style Inventory by Dunn & Dunn (1978) focuses on how learners are affected by their physical environment. Dunn & Dunn (1978) identified eighteen elements of four basic stimuli they consider to be important components of learning style:

1. Environment - sound, light, temperature, design
2. Emotional - motivation, persistence, responsibility, structure
3. Sociological - peers, self, pair, team, adult, varied
4. Physical - perceptual, intake, time, mobility

Their research, primarily with school age children, indicates that a student's ability to concentrate is affected by the level of noise and light in the classroom, temperature, time of day and the extent to which students are free to move around. Dunn & Dunn (1978) have developed a test instrument, as well as practical suggestions for altering classroom layout, and study environments in general, to accommodate students with many different learning styles.

Integrated

Several theorists have designed instruments that evaluate various components of learning style. Examples are, the NASSP Learning Style Profile (Keefe & Monk, 1986), Myers-Briggs Type Indicator (Myers & Myers, 1980), and Kolb's Learning Style Inventory (1986). They integrate the perspectives provided by learning theory,

individual development, and personality types. (Claxton & Ralston, 1978; Keefe, 1982) The MBTI (Myers-Briggs Type Indicator) and Kolb's LSI (Learning Style Inventory) will be discussed here.

Both the MBTI and Kolb's LSI are based on Jung's theory of psychological types. Jung identified ways people adapt to their environment: mode of relation to the world, mode of decision making, and mode of perceiving. Jung hypothesized that awareness of one's dominant pattern of adaption allows an individual to experiment with other behaviors and become a more rounded and holistic individual. (Kolb, 1984)

Myers-Briggs Type Indicator

The MBTI (Myers - Briggs Type Indicator) is a popular self administered, psychological instrument that measures an individual's orientation toward Jungian types. It's been widely used and tested over a twenty year period, and is available for general professional use. (Jensen, 1987; Lawrence, 1982) The MBTI measures two bi-polar mental processes (sensing-intuition and thinking-feeling), and a fundamental orientation to life (introversion-extroversion). The last dimension identifies the dominant mental process (judgment -perception). (Keefe, 1982; Lawrence, 1982; Claxton & Ralston, 1978) Combining the four dimensions categorizes people into one of sixteen types.

Keefe (1987) believes the MBTI " probably assesses personality orientation more than style", (p.23) and as such may cause confusion when using the instrument to measure the narrower concept of style. In contrast, Jensen (1987) feels that measuring the broader concept of personality is an advantage when using the information to design educational environments. He argues that instruments which

measure how a student behaves, or how a student believes they learn best, may only reflect how that student has been taught to learn. (p. 182)

Kolb's Learning Style Inventory

Kolb's LSI (Learning Style Inventory) originates from his work on experiential learning. He defines learning as a social process, " whereby knowledge is created through the transformation of experience." (Kolb, 1984, p. 41) Experience alone does not constitute learning, rather a process of synthesis and integration transforms the experience int earning. Kolb's model represents a learning cycle that includes two dimensions; grasping information (apprehension - comprehension) and transforming that information (intension - extension). To be effective, learners require four kinds of abilities, each emphasizing different skills: feeling (concrete experience), watching (reflective observation), thinking (abstract conceptualization), doing (active experimentation). (Claxton & Ralston, 1978; Kolb, 1984) The LSI measures an individual's relative emphasis on each of the four modes of the learning process. (Kolb, 1984, p.68)

1. Kolb (1984, p. 68) proposes that individuals who are oriented towards concrete experience deal with experiences in a personal way, emphasizing feeling rather than thinking. These individuals are people oriented, are often intuitive decision makers and function well in unstructured situations. (Kolb, 1984)

2. An orientation towards reflective observation emphasizes understanding ideas and situations through careful observation. Individuals with this orientation are good at seeing a situation from different perspectives and rely on their own thoughts

and feelings when forming opinions. They value patience, impartiality, and conscious judgement. (Kolb, 1984)

3. An individual who emphasizes abstract conceptualization skills would focus on logic, building theories, and use a scientific, as opposed to artistic approach to problems. They value precision and logic, enjoy analyzing ideas and are good at systematic planning. (Kolb, 1984)

4. The last orientation is active experimentation. Practical application rather than reflective understanding is emphasized. These individuals are good at getting things accomplished and are willing to take some risks in the process. They value having an influence on their environment and seeing results. (Kolb, 1984)

Scores for each of the four dimensions are plotted on a graph, which visually depicts an individual's learning style. Usually a preference for one of the dimensions is apparent. To determine a single learning style, scores are combined along two dimensions; abstract conceptualization and concrete experience, and active experimentation and reflective observation. This score is plotted on a different graph which identifies the individual as one of four learner types; accomodator, diverger, converger or assimilator. (Kolb, 1984, 1985)

Accomodator - this learning style combines concrete experience and active experimentation. The strength of this style rests in their abilities to get things done, carry out tasks, and become involved in new experiences. In new situations where theories don't fit the facts, this individual will discard the theory. Individuals with this learning style relate well to people, but are sometimes considered impatient and pushy. (Kolb, 1984)

Diverger - This learning style combines concrete experience and reflective observation. These individuals adapt by observation rather than by action. Strengths of this learning style are their abilities to view and organize situations from many perspectives. They perform well in situations that require imagination, generating ideas, and contact with people.

Converger - this learning style combines the abilities of abstract conceptualization and active experimentation. Their strengths are in problem solving, decision making and the practical application of ideas. (Kolb, 1984) These individuals score well on standard intelligence tests where there is a single correct answer to a question. Convergers are comfortable with technical tasks, as opposed to social and interpersonal issues.

Assimilators - this learning style combines abstract conceptualization and reflective observation. These individuals prefer inductive reasoning and are skilled at creating theoretical models. They prefer to deal with ideas rather than people, and are not as concerned about the practical application of ideas, as their precision and logical soundness.

Learning Style as an Instructional Tool

While identifying student learning styles seems to have promise of personalizing education, regular use of learning style information in the classroom has lagged. Dixon (1985) identified three reasons: first, a one to one relationship between learning style and preferred teaching methodology has not been identified; secondly, a student's preferred learning style may vary depending on the situation and intent of

the learning; and lastly, implementation may lag because it is difficult, and somewhat impractical, for an instructor to meet the individual needs of each class member. (p. 16) Learning style instruments are most frequently used in the classroom to either modify instructional strategies, or increase student awareness of their learning style in the hopes of expanding their repertoire of learning approaches. (Smith, 1990; Claxton & Ralston, 1978)

Learning style information can be important during other stages of the program planning process. The point at which to investigate learning styles will be influenced by whether the program is being planned for a predetermined group, or if you will be finding out later who the students will be. (Smith, 1982) Preferably it can be done prior to developing the teaching/learning resources. Both Dixon (1982) and Bonham (1989) identify that an important use of learning style information is in the preplaning of course material. It can be particularly useful when contact with students is brief and there is little time to establish rapport and modify materials. (Bonham, 1989, p. 38) In this case if a learning style instrument is completed beforehand, a profile of students can be compiled. This profile could be used as a reference for future courses, if participants were deemed to be of a similar nature. This process of building a profile of a typical participant is the purpose of gathering learning style information in this study. Beffa-Negrini (1990) believe that taking learning style information into consideration before developing distance delivered course materials is important because changing and adapting the materials later to meet the needs of each learner is very difficult and costly. Another place in the program planning process where learning style information can be useful is in evaluation. (Dixon, 1982) A course could be evaluated on its appeal to various learners, and the effectiveness of the teaching/learning strategies in helping students with different preferences, learn.

The use of learning styles can be taken a step beyond the classroom level, and implemented at the institutional level. In this instance an institution would take into account student learning styles in preparation of materials, scheduling, facility planning and instructional delivery. Because this approach can be very costly and complicated it is not common. (Claxton & Ralston, 1978)

Matching Teaching/Learning Styles

There are several schools of thought regarding the effectiveness of matching teaching strategies to the perceived preferences of students. One thought is that using strategies that match, helps the student learn more, and increases their satisfaction with the learning situation. (Entwistle, 1981) Research by Pask (Dixon, 1982) found that students who were provided with materials that matched their processing style, learned more quickly and thoroughly, and retained the information longer. (p.63) Dixon (1982) also contends that participants consistently rate programs that match their style higher than other programs. (p. 63)

The other thought with regard to matching, is that students should be challenged to adapt to different situations. Learners may be better served by participating in less comfortable situations and learning to accommodate. (Claxton & Ralston, 1978) Such a process can be considered developmental and serve to foster creativity. (Smith, 1982) Keefe (1987) believes that a middle ground exists between providing an environment where students feel comfortable, and one where they can develop adaption skills. Examining the intent of the learning experience can be an important way of determining which strategy to use. If the purpose of the educational activity is achievement and content oriented, a matching strategy may be most effective. If the educational experience is intended to more developmental, creative,

and affective in nature, a strategy that stretches participants should be used. (Bonham, 1989; Claxton & Ralston, 1978; Messick, 1976)

Research regarding matching strategies has produced conflicting results. Pigg et al, (1980) explored the effectiveness of Kolb's LSI in identifying learning style and implications for designing educational programs for agriculture extension personnel in the United States. The results failed to show that preferences for educational techniques were correlated to specific learning styles. Another study, by Rollins, (1990) also failed to show a direct relationship between learning style and preferred learning environments. In the later study, the MBTI was used to identify learning styles of vocational agriculture students. Most students were classed as "sensing" learners who would prefer learning through facts and details, experiential, and activity oriented learning activities. Results showed that regardless of learning style the students preferred similar learning activities.

Despite conflicting research many authors contend that the contribution of the learning style concept is not the exact identification of an individual's learning style, but the possibilities it provides for understanding the learner. Learning style instruments can best be used as awareness tools; a starting point that indicates trends and rough approximations of how a particular group of students perceive their learning preferences. (Bonham, 1989; Dixon, 1985; Hunt, 1985; Smith, 1982) Gregorc, (1979) and Bonham, (1988) both caution against making costly changes based only on results of inventory scores. Results must be considered within the context and purpose of the educational activity, and well as students' and instructors' comfort with other teaching/learning strategies.

Several criticisms of Kolb's LSI are apparent in the literature. They center around the format and validity of the instrument. Bonham (1988) points out that ranking the four descriptive words prevents the four dimensions from being independent, as described in the theory. (p. 15) An individual is forced to choose one dimension over another even though they are not opposites. She goes on to explain that ranking, being an ipsative approach in which subjects are measured against themselves, contradicts the use of norms, where individuals are compared with others. Kolb uses norms to predict career choices based on learning style.

The validity of the LSI has been questioned by several researchers, including Fox (1984) and Pigg et al.(1980). Both researchers were unable to find significant relationships between learners stated learning preferences and their learning style, using the 1976 version of Kolb's LSI. In the Fox (1984) study, students were asked to evaluate statements derived from Kolb's descriptors of learning styles. It was hypothesized that the scores for the evaluative statements would differ as a function of the students' learning style. This was not supported by the data. In one case where an association was found, it was in the opposite direction to the hypothesis, and Kolb's theory of learning. (p. 83) The second hypothesis of this study, which was also rejected, was that individuals with different learning styles would react differently to didactic lecture and small group methods. While Pigg et al. (1980) conclude that the LSI can make some useful contributions to planning educational programs, Fox (1984) feels that the relationship between learning styles, and either learning preferences or learner performance needs to be further validated before the instrument could be considered useful in designing educational programs. (p. 84)

History of American Agricultural Extension

The roots of agriculture extension in the United States can be traced to the 1600's. According to a popular folk tale, Squanto, an Indian friend of early settlers, demonstrated how corn yield could be improved by planting a small fish in each hill of corn. (Prawl, Medlin & Gross, 1984, p.13) Experimentation was a luxury beyond the means of most early farmers so they looked to prominent, wealthy farmers for information about new breeds of cattle and grain varieties. While early organizations like the Philadelphia Society for Promoting Agriculture spread agricultural news through lectures and publications, and provided fellowship and information exchange, most society members were not bonafide farmers, but wealthy land owners, professionals and local merchants. (Prawl et al. 1984, p.13)

By the late 1860's agriculture societies, the main vehicle for agricultural information, were organized in most states. From these societies evolved state boards of agriculture, whose most popular educational endeavor was sponsorship of state fairs. New York was the first state board to hire a farmer to give public lectures, in 1843. In response to concerns about reaching large numbers of farmers with timely and up to date information, Farmer's Institutes, patterned after the successful Teacher's Institutes, were organized in 1863. Annual meetings held at agriculture colleges, featuring discussions and lectures by top agriculturists soon became popular events. Off campus institutes were organized in Illinois, Kansas, and Iowa. Funding for these meetings was meagre and came from several sources. Speakers were supplied by an agriculture college, the local society was responsible for expenses and

meeting arrangements and free transportation was often provided by the railroad companies who were eager to see farmers prosper. (Prawl et al.,1984)

In the mid-1800's, Justin Morrill of Vermont proposed legislation to establish permanent federal funding for state agriculture colleges. In 1862 the Morrill Land Grant Act, which granted federal land to each state as an endowment to establish at least one college in each state, was signed by President Lincoln. The mandate of these land grant colleges "shall be, without excluding other scientific or classical studies, to teach such branches of learning as are related to agriculture and the mechanic arts. " (Prawl et al., p.16) In the early years the land grant colleges were plagued with financial difficulties. Morrill recognized the problems and proposed revisions to the act which would provide additional funds and require the colleges to be accountable. The Second Morrill Act, passed in 1890, gave the land grant colleges solid financial and support base from which to build. The Morrill Act of 1862 and the revisions in 1890 are regarded as the most important pieces of social legislation in the history of the United States. (Boyle, 1977) The act made continuing education accessible to everyone, not just a privileged few, and set the stage for the creation of the Cooperative Extension Service.

Soon after the land grant colleges were established, efforts to extend educational services to the community began in earnest. Support for a national extension service gained momentum in the early 1900's, from groups like the Farmers' Institutes, land grant colleges and the 1908 Commission on Country Life. After much debate and revision, the Smith-Lever Act which established the Co-operative Extension Service, was signed on May 8, 1914. The purpose of the agency was to "aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage application

of the same." (Prawl et al., p.24) Today the Cooperative Extension Service is recognized worldwide as a successful and effective adult education model. (Blackburn, 1984)

Educational programs for rural women parallel the development of agricultural programs. Women's Institutes, offering instruction on the science and practice of domestic economy, were established shortly after their counterpart, Farmers Institutes. In the early 1900's women's groups began pressuring public schools and colleges to offer training programs. By 1908, 21 states held Women's Institutes and seven others had female lecturers on staff. Today home economics is a recognized component of the extension service in both Canada and the United States.

History of Canadian Agricultural Extension

Like the United States, agricultural extension in Canada was evident in the 1600's. The first experimental seed plot in North America was grown by Marc Lescarbot at Port Royal, Nova Scotia, in 1606. (Blackburn, 1984) Quebec's first agricultural school opened in 1670 and by 1884 that number increased to fourteen. Agriculture societies were popular in Canada during the 1800's and early 1900's; the first one was established in Prince Edward Island in 1803. These organizations became the primary vehicle of disseminating practical agriculture information to farmers until more permanent systems were established in the early 1900's.

The British North America Act of 1867 influenced the development of the present Canadian system of extension education. This act designated education as a provincial responsibility. Extension, a form of education, was placed under the jurisdiction of the provinces, thus each province developed it's own extension system

independently. Through various pieces of legislation the federal government has influenced the establishment of agricultural extension services. For example, the Experimental Farm Stations Act in 1886 instructed experimental stations to prepare reports for publication "for the purpose of making the results of work done immediately useful." (Province of Alberta, 1970) The passage of the Farmer's Institute Act in 1913, which made federal funds available to the provinces for agricultural extension work, expanded extension services throughout Canada. This act was not only significant to agricultural education, but provided a means for the federal government to fund other types of vocational education as well. (Selman, 1984, p.9)

Most Canadian provinces established Departments of Agriculture in the early 1900's. Extension agents were appointed shortly thereafter in response to demands by Farmers' and Women's Institutes for practical, research based agricultural and home economics information. Adelaide Hoodless, founder of the world wide organization, Women's Institutes, was instrumental in establishing home economics programs in the public schools and extension service in Ontario. As a result of her efforts, both Macdonald Institute in Ontario and Macdonald College in Quebec were founded as the first post secondary home economics training schools in Canada. (Chapman, 1952)

Agricultural extension work was addressed in the first annual report of the Alberta Department of Agriculture, in 1905. Women's programs were mentioned in the following year's report as important, and deserving of the same attention as agricultural programs. In 1915 the Alberta Department of Agriculture requested that the University of Alberta establish an extension system similar to the Co-operative Extension Service in the United States. When the University declined, the Department of Agriculture began hiring its own agriculture and later, home economics

staff. Five District Agents were employed in 1916, but because they were affiliated with the schools of agriculture, they worked only between school terms. In addition to organizing lectures, summer fairs, Farmers' and Women's Institute meetings and demonstration trains (rail cars converted into classrooms), the mandate of this first group of extension staff was to organize and work with boys and girls clubs. In 1920, the first full time District Agriculturist was appointed, to the Stettler area. His duties were to visit farmers, identify and solve problems, conduct information meetings and to assist local youth groups.

While the first Home Economist was not appointed until 1939, home economics programs were evident in the early years. Food demonstrations at fairs began in 1905, and in 1930 a Farm Women's Week program, an annual event until 1990, was held at two agriculture colleges. By 1944 five District Home Economists served the province. Numbers increased to eight full time and two part time staff in 1945 to meet two post war trends: buymanship and home planning. The extension service expanded to include subject specialists in both home economics and agriculture, the printing and distribution of publications, and use of radio and television. Currently Alberta Agriculture has 68 district extension offices, one located in every agricultural region of the province. The mandate does not differ significantly from the first District Agents' in 1916. Alberta Agriculture's mission statement for the 1990's is, "to support the maintenance and further development of a viable agriculture and food economy in Alberta." (Alberta Agriculture, 1989)

Philosophy of Extension Education

The philosophical foundations of extension originated in progressive education thinking. John Dewey, a leader in progressive thought, called for democracy in

education, and viewed education as a crucial component of any social reform movement. The basic principles of progressive education are:

1. A broad view of education; including socialization processes, liberal and practical studies.
2. Focusing on the needs, wants, interests, and experiences of learners.
3. Use of the problem solving process.
4. An egalitarian relationship between teacher and learner.
5. Viewing education as an instrument of social change.

Progressive education's emphasis on vocational and utilitarian training, learning through experience, use of the problem solving approach, community involvement and concern for social issues, found their expression in extension programs. The strength of this movement may have been in response to the prevailing social and economic conditions in the United States between 1890 and 1950. (Elias & Merriam, 1980) Elements of progressive thought, learner centeredness, social activism and the experimental method, are found in the writings of many adult education theorists: Knowles, Houle, Tyler, Lindeman, Friere and Rogers. (p.45) Extension education has it's roots in progressive thought, but like other educational movements it has adapted as social and economic conditions shift.

A working definition of extension is provided by J.P. Leagans in D.J. Blackburn's (1984), Extension Handbook.

> "The process of extension education is one of working with people, not for them; of making people the central actors in the drama, not stage hands or spectators; in short, helping people by means of education to put useful knowledge to work for them." (p.1)

This definition emphasizes three assumptions that provide a foundation for extension education. First, extension assumes that adults are intelligent and motivated to learn.

Placing education within the context of everyday life, where clients can test and apply ideas, is the second assumption. Lastly, extension education should provide timely, research based, information. (Oaklief, 1986) Implied in this definition is the informal nature of extension. Simkins (1977) outlines differences between formal and informal educational programs. Informal education is community related, learner-centered, non-credentialed, short-term, specific, democratic and practical; all characteristics of extension programs.

Extension has a broad mandate in rural communities. Paul Miller (1973) states that " Cooperative Extension is in part an institution of adult education and in part an agency of social change." (p.23) While technology transfer is an integral component of extension it does not constitute the extension process. Blackburn (1989) identifies three approaches to agricultural extension. First is the view that extension's mandate is to improve the production and profitability of farmers, or technology transfer. The second view refers to extension's community development functions. Providing non-formal, agriculturally related education to diverse audiences is the third approach. Extension programs in the United States and Canada use all three orientations; whereas extension services in developing countries focus almost exclusively on production related programs.

Baker (1984) believes that sponsorship of extension education is important in examining its mandate. Public sector extension, funded by governments and universities, is perhaps the most widely discussed form of extension. Private agencies, such as fertilizer dealers also sponsor educational programs, using their own field agents to reach clients. Commodity groups and other farm organizations are also active participants in providing adult education programming to rural audiences.

Education is the primary function of public sector agencies, and a secondary function of private and commodity organizations.

Extension as a Process of Change

The purpose of agriculture extension education is to introduce learners to research based innovations and provide opportunities for them to evaluate and adopt those innovations that meet their needs. Havelock (1973) identified 6 adoption stages that learners go through before committing to a change in behavior. Associated with each phase are specific activities, that augment the possibility of the innovation being adopted. Havelock (1973) and Dormant (1979) believe that learners must be allowed to pass through each of the six stages sequentially and at their own speed. At any point the learner may reject the new idea. Rejection may be a sound decision, if the innovation does not meet the client's needs. Following is a brief description of each of the six phases and the kind of information that will reach the learner at that point (Havelock, 1973):

1. Awareness - the individual is made aware of the innovation, but takes only a passive interest. They have not formed an opinion and do not seek further information. At this stage information should be brief, positive, easy to understand and interesting.

2. Interest - the learner is actively seeking information, but has not judged the suitability of the innovation to their own circumstances. First impressions that are formed will determine whether the learner rejects the idea or moves to the next stage.

3. Evaluation - (sometimes referred to as mental tryout), the learner mentally applies the innovation to his own situation and decides whether its worth trying in real

life. Demonstrating the innovation in a familiar environment and promoting discussion with peer groups is important. (Dormant, 1979)

4. Trial - the client actually tries the innovation on a small scale or temporary basis. At this stage the client needs maximum support in the form of training, to perform the new behavior, encouragement and assistance evaluating the experience. The results of the trial may not be appreciated or obvious to the participant.

5. Adoption - if the learner decides to adopt the innovation, they will need continuing support, encouragement, and training. The individual will continue to need help adjusting to the new behavior, and coping with problems and set backs.

6. Integration - after adoption, integration can be ensured by providing follow-up in the form of updates, newsletters, evaluations and reminders.

Communication strategies used to deliver information about the innovation will affect how the message impacts clients. One way communication strategies, such as lecture, print and video tape do not allow interaction between the client and facilitator. While these methods can be effective in the first two adoption phases, awareness and interest, they are not appropriate in the latter stages of the process. Two way strategies, such as group discussion, person to person, and demonstrations give the client a chance to share their needs, but are more costly and time consuming. (Havelock, 1973, p.128) The implication is that the adoption phase to which information is targeted must be established before designing educational packages. Audio visual presentations and written material should be limited to awareness and interest functions, and not be expected to evoke a change in behavior. The same could be said for lectures, where there is little or no opportunity for group discussion, and

one to one interaction. Educational efforts that move clients through the adoption phases need to include proportionally more time in group discussion, one to one interaction and demonstrations.

A challenge exists for designers of print based distance delivered courses to integrate personal interaction within the written material, or provide opportunities outside the print package for feedback and discussion to take place. In the past few years some Home Study courses have moved from a reference book type of resource towards a workbook format. These workbooks include exercises and quizzes using case studies, and opportunities to apply the information to their own situation. An important feature of this style of Home Study is the emphasis on accessing local resource people. Contact with these people could provide the support and encouragement needed to follow through with the adoption and integration stages of Havelock's (1973) model.

An example of a Home Study course that relies on learners to make contacts and use local resources is the Cattle Nutrition course, produced in 1990. Midway through the course learners are directed to submit a feed sample for analysis. Subsequent chapters use the information provided in the analysis to assist the farmer to adjust the ration as necessary to meet the nutrient requirements of their livestock. Working through this Home Study course could put the learner in contact with key community resources such as the veterinarian, Alberta Agriculture district staff, and the feed mill.

The lack of organized contact with Home Study learners can be viewed several different ways. Literature on distance education, extension, and change (Havelock, 1973; Garrison, 1989) suggests that planned, structured dialogue between learners

and instructor, and between learners is a necessary component of an effective educational activity. Literature on adult education by authors like Knowles, suggest that adult learners prefer to be self directed and take responsibility for their own learning. By providing suggestions and opportunities for learners to make contact with local professionals, and allowing them to direct their own learning, Home Study courses may be establishing conditions that promote and support change.

This study will ask Home Study learners about: their needs for contact with an instructor and other students, the extent to which they used the exercises and quizzes, and the role of the Home Study course in any changes made to their farming practice.

Distance Education

The following section is a brief discussion of distance education. The topics relate to areas that were explored in a questionnaire that was sent to a sample of Home Study participants. These topic areas are: profiles of distance learners, student support, and methods of personalizing distance education material. The discussion will provide a context to interpret the questionnaire results.

Distance education occurs in a variety of environments and contexts. Writers in the field such as, Holmberg, Moore, Keegan and Garrison each propose different definitions of distance education, but one common thread is the learner's perception of distance between them and the instructor. The goals of distance educators do not differ much from the goals of educators working in a conventional educational environment. Verduin (1991) describes the mission of distance education as providing a " learning environment that allows individual adults to interact with appropriate

objects, people, and events in order to acquire relevant new behaviors (knowledge and skills); gives adults an opportunity to practice the new behaviors if necessary; and helps adults learn how to apply these behaviors in meaningful situations." (p. 24) Distance educators are challenged to find practical, cost effective and effective methods of providing the knowledge and skills, and opportunities to practice and apply these new behaviors.

Profile of Distance Learners

In the past there was a common conception that students who chose to learn by distance were geographically too far from an educational institution to attend face to face sessions. But distance from home to school does not differ much between students who attend regular classes and those who choose to study though distance methods. (Verduin, 1991, p.23) Research also indicates that distance learners are from many walks of life and present a broad range of previous educational experience. While there is limited information about the characteristics of distance learners, Coldeway (1986) believes they represent a wider range of educational background and educational experience than other groups of learners. (p.87) Moore (1989) characterizes distance learners as being very task oriented with a specific learning goal in mind. They want the information delivered in locations and at times that are convenient to them, as well as information that is knowledge based and current. (p. 8-9) Examining reasons why learners enroll in courses generally and distance courses specifically, can also provide information about the student population. An Ontario survey found that 44% of the respondents reported job related reasons, 18% cited personal development and 18% said recreation interests were their motivations. (Waniewicz, 1982) At the Tele-universite in Quebec, when students were asked why they chose that institution over other more conventional institutions, 51%, cited the

home study method as being the primary reason for their choice. Other reasons were, the course topic (21%), the format of instruction (14%), and convenience of registration and administration (7%). (Caron, 1982)

The broad range of students may be a function of the range of institutions and organizations offering distance delivered educational materials. Seaborne and Zuckernick (1986) identify three categories of organizations involved in distance education course development in Canada. The first and largest number are traditional campus based universities and colleges, where distance courses are a small part of a much larger organization. The second group includes organizations whose primary focus is distance delivered courses, such as Athabasca University, the Open Learning Institute of British Columbia and the Tele-universite in Quebec. The third grouping of organizations is characterized as associated educational institutions, such as professional organizations and educational media authorities. ACCESS Alberta is a local example. Alberta Agriculture Home Study courses would most likely fit into this last grouping because delivery of educational programs and materials is a secondary function of the department, and of the provincial government as a whole. Calvert (1986) cautions against comparing and drawing conclusions from isolated sets of demographic data. Enrollment profiles will be affected by instructional strategies, delivery methods, marketing and subject area. (p. 99)

The current questionnaire will collect demographic data specific to the clientele of the Home Study program that can be used to develop a current profile of learners. Questions about their age, level of education, farm income, learning style, and preferred methods of learning, will provide a basis on which to interpret other questionnaire responses, and to use in planning future educational materials.

Student Support in Distance Education

Interaction between student and instructor is considered one of the most important indicators of quality in distance education programs. (Garrison, 1989; Sewart, 1982) In making comparisons between distance educational experiences and traditional classroom situations, instructor contact is most frequently cited. " The quality and effectiveness of education at a distance is directly attributable to the degree and kind of interaction between teacher and student, as well as between student and student." (Garrison & Shale, 1988, p. 123) Rankin and Brindley (1986) believe that student support services can humanize and personalize distance education. A distance delivered program can offer a service to students "at least as rich and at least as individualized as the traditional system." (Sewart, 1982, p. 27) Cross (1981) also feels that most people setting out to learn something feel they need some human help and stimulation along the way. Limited interaction with an instructor was perceived as the main disadvantage of distance education, by post secondary students who were not attracted to distance education courses. (Thompson, 1990) The results of this study did not suggest that increased student-student interaction was an important factor in deciding whether or not to take a distance delivered course. (p.64)

Research at Athabasca University compared level of student/tutor contact with student success. They found that tutor contact was not necessarily, or highly correlated with either success in the course, or motivation to continue. (Coldeway, 1991) Contact with a tutor seemed important only when students had problems, or required some information. This study indicated that on average students had one contact with their tutor every four weeks, which was usually initiated by the student. About one third of the students said they had no contact with a tutor. Thompson

(1990) cites two studies, Beijer, 1972 and Potter, 1983, which suggest that some students who registered in distance education programs do not want high levels of interaction with their instructor and do not welcome instructor initiated contact. (p. 62) Whether students feel this assistance and encouragement needs to be provided by the institution offering the course is a question that will be explored in the current survey. An earlier survey of Home Study students (Ellis, 1986), and interviews with ten Home Study learners (Passmore, 1988), indicated that this group of learners does not want pre-arranged contact with Alberta Agriculture. Support for their learning comes from family members and others in the community whom they discuss the course material with.

The form and frequency of contact with an institution or instructor has received the attention of many writers. Smith and Small (1982) describe distance learning as a form of external studies, but it should not be a "sentence to solitary confinement." (p.137) New technologies such as tele-conferencing allow a student to study in their own home or community, yet interact with an instructor and other students. In a Tele-universite survey in Quebec, students were asked what kind of support they preferred. Workshops were the most popular choice, but 78% preferred other types of support. More than 49% preferred individualized support without group meetings. (Caron, 1982, p.148)

Personalizing Distance Education Materials

Other methods of providing interaction in distance education courses is through the teaching package itself. Sewart (1982) believes that the success of a distance education program rests on the " correct balance between the teaching package and the advisory and mediating function." (p. 27) Integrating several types of instructional materials is a way of individualizing the package to cope with large differences that may exist between learners in one course. (Coldeway, 1982). "While learning is up to the individual and is a function of his participation, it can be facilitated by proper understanding of the learner and of the instructional tools available." (p.92) Verduin (1991) believes that considering the individual learning styles of students can complicate a distance educators job, but must be considered during early course planning activities. (p. 29) He goes further to say that "understanding how individual learners approach learning may make it possible for the distance educator to see patterns of learning styles and plan or adjust course presentations accordingly." (p. 30) While this does not ensure that students will learn more easily if the strategies match with their preferences, students are more likely to be satisfied with the course. (p. 30)

The design of the course package will also affect the degree to which any behavior change, as a result of learning, takes place. Providing activities that allow learners to relate new knowledge to previous experience can be important for the integration of new knowledge. (Darkenwald and Merriam, 1982) Case studies and simulations are experiential learning techniques that provide opportunities to apply knowledge in a non threatening way. Challenging learners to explore and evaluate several viewpoints to identify strengths and weaknesses is a method that could be used when students are studying independently. (Hayes, 1990) Burge, (1988)

outlines some guidelines for assessing the quality of distance education materials. Some of the qualities she looks for in distance courses are: providing learners with choices in pacing, sequencing, legitimize their life experience, use of experiential learning techniques, promote reflective learning and application of material, and promote learning partnerships. (p. 17,18) Home Study courses that have been developed in the past 3 years have strived to include some of the educational strategies mentioned here. Feedback from learners about their reaction to, and the extent to which they participated in the course materials will provide valuable information to course planners.

Summary

Extension education has a long history of providing adult education to rural learners, both in Canada and the United States. Key components of effective extension programs are that they meet the needs of the learners, consider and use the experience of the learner, that it be research based knowledge and that the knowledge be practical and applicable to the learners immediate situation. The desired result of extension educational efforts is that learners will assess their situation, and possibly change their behavior if the innovation, or new information will benefit them. Learners progress through a series of 6 phases, identified by Havelock (1973), in the process of changing behavior. The last three phases, where learners try out and evaluate the new behavior are key to the change process. During these stages, the most effective educational strategies are those that involve personal interaction, such as: interviews, demonstrations and meetings. For distance educators a challenge exists to incorporate interactive strategies into learning packages. In the recent past some Home Study courses have directed learners to local resource people, and provided exercises within the course for learners to try out the concepts with their own farm

situations. The current study will explore if learners have utilized these techniques, and if they report any behavior change as a result of taking a Home Study course.

The concept of learning styles has important implications to adult educators. It provides a method for understanding individual learners and personalizing educational materials. Applying learning style concepts in the classroom has lagged because of concern over the validity and reliability of learning style instruments, as well as discussion about whether matching learning/teaching styles, or teaching learners to adapt to other styles, is most effective. While these are points of discussion in the literature, many authors agree that the value of learning style information, and of the instruments themselves lies in the recognition that students learn in different ways and are attracted to different learning situations. Learning style instruments can provide an overview of a group of learners, and identify learning strategies that the group is most comfortable with. A decision about matching, or stretching student's learning styles would depend on the objective of the learning situation. If the primary goal is to impart new knowledge, matching may be the best strategy. If the educational program is primarily developmental, then working with learners to try out and adapt to new styles may be most effective.

The field of distance education is expanding due to new technologies that enable learners and instructors to interact with more ease than in the past. Reaching out to learners who do not have the chance to attend traditional educational institutions, means the profile of distance learners differs from other students. These learners are older, represent a broader range of education and life experience, and are usually fully employed in, or outside of the home. Issues of importance to distance educators include, defining distance learners, providing student support, instructor contact, and methods of improving the learning package.

Chapter Three

Research Design and Methodology

Introduction

This evaluative research was undertaken to provide information that could be used to improve Alberta Agriculture's Home Study program. An emphasis has been placed on learning styles, to gain insight into the learning style preferences of Home Study learners.

Research Design

The research design is based on the work of two program evaluation theorists; Daniel Stufflebeam (1973) and Robert Stake (1973). Stufflebeam and Guba, (1970) proposed an evaluation model referred to by Popham (1975) as a "decision model". The model's contribution to this study is its focus on gathering information for decision makers. Stufflebeam describes three settings in which decisions are made about educational programs: homeostatic, incremental, and neomobilistic. In a homeostatic environment few changes occur over time, whereas in an incremental setting small changes or adjustments are made regularly. Neomobilistic change describes a drastic change in an environment. Incremental would best describe the Home Study program evaluation. It is formative in nature, and "activities are aimed at the continuous improvement in the program." (Stufflebeam, 1970, p. 34)

Stake's (1973) model, provides a method of organizing and classifying the data. The terms antecedent, transaction and outcome are used to describe the types of information that should be included in an evaluation. These terms have been chosen to identify areas of investigation, and to provide a framework for the research

questions. Antecedent data, addressed in research questions I & II, includes a demographic profile of learners, and a description of students' learning style (as defined by Kolb's Learning Style Inventory). Data relating to how learners interact with the learning material constitute transaction data, and are addressed in research questions III and IV. Lastly, outcome information, describing learner satisfaction, behavior change as a result of taking a Home Study course, and recommended improvements are addressed in research questions V - VIII.

A final research question (number IX) explores the relationship between learning style and; level of satisfaction, preference for learning resources, and behavior change.

Population and Sample

The population for this study was all Home Study learners who had enrolled in a course since 1986, course developers, and selected Alberta Agriculture field staff, referred to as course deliverers.

The sample of Home Study learners was drawn from names on the active mailing list, for whom a current Alberta address was known. This list totaled about 15,000 names. A stratified random sample of 1000 names was selected. The sample reflected three general categories of course content: business management, crop production, and livestock production. This ensured that responses reflected the diversity of learners. Once a name had been chosen from one content category, it was passed over in subsequent lists, so as not to be chosen again.

The other groups that were included in the population were course deliverers (District Home Economists, District Agriculturists, Regional Specialists), and course developers (both content matter experts and instructional designers). Limited numbers in both these groups necessitated sending the questionnaire to all deliverers, and all course developers who had been involved in the Home Study program in the past 3 years. (n = 227)

Sources of Data

There were two sources of data; responses to a questionnaire, and responses to Kolb's Learning Style Inventory (1985).

Questionnaire - A questionnaire was sent to a stratified random sample of Home Study learners (n=996) to gather demographic data, as well as information about learning preferences, impact of the Home Study course(s), and suggestions regarding improvements to the program. See Appendix A for samples of the questionnaires.

A modified questionnaire was sent to course deliverers (District Home Economists, District Agriculturists, Regional Specialists) and course developers. These two groups provide a different perspective than learners, because they are not enrolled in the courses. They could possibly identify design or delivery problems that restrict the appeal of Home Study courses, and pinpoint topics of interest to farm clientele. It is also important to know how informed and supportive course deliverers are of the Home Study program when designing a course marketing strategy.

All questionnaires were coded to enable the researcher to follow up with non respondents. In addition, questionnaires sent to learners were coded to differentiate

responses from the three course categories: business management, crop production and livestock production. Anonymity was protected by separating the list of names and code numbers, from the completed questionnaires.

Kolb's Learning Style Inventory - Kolb's Learning Style Inventory (1985) is a twelve item self report questionnaire. Learners are asked to rank four sentence endings in a way that best describes their learning style. (Kolb, 1984, p. 68) Each of the four phrases corresponds to one of the four learning modes. Scores for each learning mode are then totalled, providing four numerical scores; concrete experience, reflective observation, abstract conceptualization and active experimentation. These scores are plotted on a graph that represents the four learning modes. (Kolb, 1985) See Appendix B for a sample of this instrument.

The four scores visually depict Kolb's learning cycle and preferences of the individual. Usually one of the learning modes is preferred over the other three. To determine a single learning style, scores were combined along two dimensions; abstract conceptualization and concrete experience, and active experimentation and reflective observation. This score was plotted on a different graph which identified the individual as one of four learner types; accomodator, diverger, converger or assimilator. (Kolb, 1984, 1985)

Methodology

Between March 2 - 4, 1992, 996 questionnaires were sent to learners. An introductory letter and the learning style inventory were included in the package. Questionnaires were coded, to allow for follow up with non respondents. The code numbers also signified which of the three categories the student represented;

livestock production, business management, or crop production. On March 12, 1992 a reminder/thank you card was sent to all learners. During the week of April 1, 1992 approximately 675 replacement packages were sent to all those whose questionnaire had not yet been accounted for. By May 4, 1992 a total of 374 (37.5%) usable questionnaires had been returned. An additional 66 were returned because of bad addresses, and another 24 were returned uncompleted. Responses from the three categories were fairly even; livestock - 128, business management - 139, crop production - 107.

On March 16, 1992 course deliverer questionnaires were sent, 187 in total. A thank you/ reminder letter was sent on March 30,1992. A total of 127 questionnaires were returned (67.9%).

Course developer questionnaires (40) were sent on March 19, 1992. A thank you/reminder letter was sent on March 30, 1992. A total of 32 questionnaires were returned (80%).

Process for Data Analysis

The research problem was to be addressed through examination of nine research questions. The data for each question was handled in the following ways:

Research Question I: What is the demographic profile of current Home Study learners, and has the profile changed since the 1986 (Ellis) study ?

Demographic information is represented using means and ranges. Tables depicting the full range of respondents are presented. Information such as educational

level, gross farm sales, age and type of farm production was used to complete the profiles. A comparison of this profile and the profile in the Ellis (1986) study was made.

Research Question II: What learning style groups do Home Study learners represent, as defined by Kolb's Learning Style Inventory ?

Kolb's Learning Style Inventory was scored as outlined in the guide book. Each participant was categorized into one of the four learning styles; converger, diverger, accomodator, assimilator. The frequency of each style was reported and the mode determined. Responses from each course category (financial, crop, and livestock) were grouped to determine the distribution of learning styles, and Chi Square analysis was used to determine if significant differences existed between the groups.

Research Question III: Which course format do Home Study learners prefer; workbook or reference type course material ?

Research Question IV: What resources, in addition to the written course material, would Home Study learners find beneficial ?

Research Question V: How satisfied are Home Study learners with the last Home Study course they enrolled in ?

Research Question VI: Did learners make changes in behavior as a result of taking a Home Study course ?

Research Question VII: What are the attitudes of course deliverers and course developers towards the Home Study program ?

Research Question VIII: What improvements to the Home Study program do learners, course deliverers and course developers suggest ?

Responses concerning the above six research questions were reported using frequency and mean calculations. Both course category and learning style were used to determine if significant differences existed between the groups with respect to their responses.

Research Question IX: Is there a significant relationship between learning style groups, (as defined by Kolb's Learning Style Inventory) and level of satisfaction; preference for learning resources; and behavior change as a result of taking a Home Study course ?

Chi Square analysis was used to determine the relationship between; learning style and level of satisfaction with course material, learning style and preference for learning resources, learning style and behavior change as a result of taking a Home Study course.

This chapter has provided an outline of how the data is presented. Where possible, tables were used to enhance the readability of the report. Chapter Four will focus on reporting the results of the data collection.

Chapter Four

Presentation of Data

This chapter presents the results of the data which were obtained through the methods and instruments described in Chapter Three. Data collected through the learners survey were used to provide demographic information about the learners, preferred learning strategies and their level of satisfaction with the last Home Study course they took. The learning styles of the students were determined and analyzed to ascertain if relationships existed between learning style and gender, learning style and satisfaction with courses, and learning style and preferred methods of learning (workbook vs. reference, individual vs. group work). Data from questionnaires that were sent to course developers and deliverers were used to determine their attitudes towards the Home Study program, and their perceptions about improvements.

The results of the study are presented following the research questions that were outlined in Chapter One.

Research Question I.

What is the demographic profile of current Home Study learners, and has this profile changed since the 1986 (Ellis) study ?

The demographic information collected, provided information on learners' age, gender, number of years farming, gross sales, and level of education. Home Study learners are predominantly male, have been farming for more than 10 years, are between the ages of 26 - 55 years, and have some technical or university training beyond high school. Most learners reported having gross farm sales of between $25,000 - $99,000. (see Table 1)

The majority of the students in this sample were male (61.7%). Female students represented 23.1% of the respondents, while 15.2% of the students reported that both husband and wife worked on the course. Those between the ages of 26 - 40 years comprised 45.4% of the sample, and 36.1% were 41-55 years old. Most respondents, 65.3%, had more than ten years experience as a farm manager. Over half of the students (57.7%) had some university or technical training, including 33.4% who had completed a post secondary program. Size of farm, as determined by gross sales, was 58.2% with under $100,000 of sales; 24.3% had between $100,000-249,000 sales; and 14.8% reported over $250,000. A small group of respondents (2.7%) reported no farm income.

Students were asked about computer ownership and usage. Just over half the respondents (50.7%) own a computer, and 88.1% of those computers are IBM, or IBM compatible. Of those who own a computer, 75.6% do not own a modem. The largest group of respondents use their computers for record keeping, word processing, as well as games and entertainment (48.6%). A smaller portion (29.8%) use the computer for record keeping and decision making only.

Table 1

Demographic Characteristics of Students

Characteristics	1992 Survey n=374
Male/Female respondents	61.7% male 23.1% female 15.2% husband and wife used the course
Age	
18-25 years	5.4%
26-40 years	45.4%
41-55 years	36.1%
over 55 years	13%
Number of years farming	
0-5 years	16.6%
6-10 years	18%
11-20 years	30.1%
more than 20 years	35.2%
Education level	
less than high school	16.7%
completed high school	25.6%
some univ. or tech. training	24.3%
completed univ. or tech. training	33.4%
Gross farm sales	
$2500-24,999	17.8%
$25,000-99,999	40.4%
$100,000-249,999	24.3%
$250,000 and over	14.8%
no farm income	2.7%

A comparison was made in Table 2, between the demographic characteristics of respondents to a 1986 Home Study survey (Ellis, 1986) and the current study. Courses since 1986 have attracted more female participants, and couples that work together on a course. Students are generally a bit older, with more farm experience.

Both groups had about the same level of education, and operate farms of about the same size (not taking into account the value of 1986 dollars as compared to today).

Table 2

Comparing 1986 and 1992 Demographics

Characteristics	1986 Survey n=1334	1992 Survey n=374
Male/Female respondents	85.4% male 13.1% female 1.6% both used course	61.7% male 23.1% female 15.2% both used course
Age	65.7% under 40 years	50.8% under 40 years
Number of years farming	42.6% more than 10 years 13.4% not currently farming	65.3% more than 10 years
Education level	59.1% some university or tech training	57.7% some university or tech training
Gross farm sales	58.5% under $100,000 sales	58.2% under $100,000 sales 2.7% no farm sales

The stratified random sample was based on three categories of students. Students were grouped according to the most recent Home Study course they enrolled in. Courses were classed as being either livestock production, business management, or crop production oriented. This division allowed for analysis of results by student category, thus providing more information to program administrators about their target audience.

Chi-square analysis was calculated on several demographic variables, and the three categories of students, to further define the student population. Several significant relationships, at the .05 level were found, firstly, between student category and type of producer. As would be expected, most of the students enrolled in a

livestock production course were beef or dairy producers (54.4%). Similarly most of those in the crop production category were cereal/grain producers (44.4%). Cereal and grain producers were also the largest group of business management learners (38.7%), followed by beef or dairy producers (26.3%), and those who reported having more than one farm enterprise (19%).

Age, and number of years farming also differed significantly by student category. Younger producers were most likely to take livestock production courses. Of those students 18-25 years old, 75% enrolled in this course category. Another group of young farmers, those farming for 0-5 years, were also more likely to take a livestock production course (50.8%).

Older farmers and those with more farming experience tended to enroll in business management courses. Almost half of those enrolling in a business management course had more than 20 years of farming experience (48.5%), while only 11.9% of these students had 0-5 years of experience. Crop production courses also attracted students with more farming experience; 34.4% had more that 20 years experience and 13.5% had 0-5 years experience.

Female learners were most likely to enroll in a business management course (63.5%), and least likely to take a crop production course (11.8%). Despite the low percentage of female learners in the sample (23.1%), they made up 39.4% of the business management student group. Those who reported both husband and wife using the course took mainly livestock courses (42.9%) and were least likely to take a crops course (17.9%).

The last component of the demographic profile was determining how important students perceive various sources of farm information. The most important source of information for these students was farm newspapers and publications (mean 2.4, on a 3 point scale). Other important sources were: individual contact with subject area specialists (2.3), other farmers (2.3), and attending courses and seminars (2.3). Home Study courses, as a source of information, received a mean score of 2.2, and conferences were rated the least important source with a mean of 1.9.

Research Question II

What learning style groups do Home Study learners represent, as defined by Kolb's Learning Style Inventory ?

The data for the sample revealed that all four learning styles were represented in the sample. The largest group of learners (35.8%) was found to be assimilators. Assimilative learners focus on abstract ideas, and prefer not to be as involved with people. They are skilled at understanding and assimilating a wide range of information and at creating theoretical models. These learners are not as concerned about the practical application of ideas, as their precision and logical soundness. The next largest group of learners were classed as convergers (20.3%). Their strengths are in problem solving, decision making, and the practical application of ideas. Convergers are also comfortable with technical tasks, as opposed to social and interpersonal issues. The third group, divergers (19%), adapt to situations by observation rather than action. They have abilities to view and organize situations from many different perspectives. They are comfortable in situations that require imagination, generation of ideas, and contact with people. The learning style with the smallest number of learners was accomodator. (14.4%) The strength of this style rests in their abilities to get things done, carry out tasks and become involved in new experiences. Information

and logical analysis is usually obtained from other sources, and problem solving is on a trial and error basis. The remaining 10.4% of respondents did not complete the learning style inventory sufficiently to use the results. The descriptive data is presented in Table 3.

Table 3

Learning Styles of Students

Learning Styles	N	%	Mode
Accomodator	54	14.4	
Diverger	71	19	
Assimilator	134	35.8	Assimilator
Converger	76	20.3	
Problems	39	10.4	
Total	374	100.0	

Table 4 illustrates the descriptive data on learning style and gender. Male learners were most likely to be assimlators (42.2%), followed by convergers (25.7%). Both these learner groups focus on taking in and trying out information on an abstract level. (Kolb, 1984, 1986) Female learners were predominantly accommodative learners (33.3%), followed by equal representation in the diverger and assimilator categories (25.3%). The accommodative learning style relies on hands on experience to receive and integrate new information. They focus on people rather than ideas. (Kolb, 1984, 1986)

Table 4

Learning Style and Gender

Learning Style	Female		Male		Both Used Course		Total	
	n	%	n	%	n	%	n	%
Accomodator	25	6.8	23	6.3	5	1.4	53	14.4
Diverger	19	5.2	43	11.7	8	2.2	70	19
Assimilator	19	5.2	87	23.6	26	7.1	132	35.9
Converger	12	3.3	53	14.4	9	2.4	74	20.1
Problems	10	2.7	21	5.7	8	2.2	39	10.6
Total	85	23.1	227	61.7	56	15.2	368	100.0

Chi-square analysis of the cross tabulation of the variables learning style and gender revealed a significant relationship, at the .05 level. On examination of the cross tabulation table, it was evident that the findings were influenced by the large number of males who demonstrated the assimilative learning style, and their under representation in the accomodator learning style.

Research Question III

Which course format do Home Study learners prefer: workbook or reference type course material ?

Two course formats that are used for Home Study courses were identified in the questionnaire; workbook, and reference. A workbook was described as a course that included exercises and quizzes within the chapter, and a case study as an example. Students would work through this type of course. A reference style course was described as a place to look for information, something like an encyclopedia. At

the course development stage a decision is made about course format, based on the content, and objectives of the course. Each course is offered in one format only, for example the course titled Profit; The Business of Farming, is workbook style, whereas the Beef Herd Management course is a reference binder. Not all students would have experience with both course formats. Learners were asked three questions about format; which format they expected to receive (from the course description), which format they actually received, and which format they prefer. Descriptive data is presented in Table 5.

Table 5

Workbook vs Reference Format

Student Responses	Workbook	Reference	Include both Workbook and Reference
Format Expected	47.2%	51.7%	1.1%
Format Received	41.5%	56.0%	2.5%
Preferred Format	34.2%	61.1%	4.7%

Students would have gathered information about a particular Home Study course from various sources, including brochures, Alberta Agriculture staff, and word of mouth. When asked which course format they expected to receive after enrolling in the course, about half the students indicated they expected to receive a reference binder. The other half expected a workbook that they would work through. Student perceptions about which format they actually received indicated that slightly more students felt they actually received a reference type course, than had expected to receive one. When asked which of the two formats they would prefer, more than half (61.1%) indicated they would prefer a reference type of course. It would seem then that students generally receive the course format they are expecting, when enrolling in

a course. If given the choice between a reference, or workbook style of course, more students would choose a reference type of course.

Students were divided into three categories, by the subject matter of the most recent Home Study course they enrolled in. A crosstab was calculated on the variables course category and preferred format, and checked for significance using Chi-square. A significant relationship was found at the .05 level. The group of students who last enrolled in a livestock course had a strong preference for the reference style format (80.5%). The other two groups of students, business management and crops, were more evenly split with 44.8% and 59.2% respectively preferring a reference format.

The variables learning style and preference for workbook or reference were subjected to Chi-square analysis to determine their relationship. No significant relationship was found between the two variables.

Course developers (subject area specialists who work on the course development team) and deliverers (Alberta Agriculture staff who work in the field) were also asked to indicate which course format they felt was most useful to students. Their responses are presented in Table 6. Both groups show a slight preference for the reference style of Home Study course material.

Table 6

Course Developers and Deliverers Preferred Format

Course Format	Developers		Deliverers	
	n	%	n	%
Workbook	10	32.3	35	28
Reference	17	54.8	80	64
Both	4	12.9	10	8
Total	32	100.0	127	100.0

Research Question IV

What resources in addition to the written material, would Home Study learners find beneficial ?

Students were asked what additional resources they used when working on the course, other than the course binder. Responses were measured on a four point scale, 1 indicating that resource was Never used and 4 indicating it was Always used, and means were calculated. Resources that were used most often were; Alberta Agriculture publications (mean 2.46), Alberta Agriculture district staff (mean 2.19), and other publications (mean 2.16). Computer software and videos had the lowest mean scores (1.36 and 1.55). This could be expected because only the most recent Home Study courses offer these resources.

Students were also asked to rate the extent to which a series of items would improve Home Study courses. A three point scale was used to measure the extent to which the items would improve Home Study courses; 1 representing Not Much, 2 - Some, and 3, A Lot. Means were calculated for each item. Course developers

(subject area specialists who write course material) and deliverers (Alberta Agriculture field personnel) also rated the same list of course improvements. The item with the highest mean score for students was, providing other materials such as videos, (2.26). This was followed by, contact with Alberta Agriculture specialists, (2.08). Providing opportunities for students to get together was not considered important to students (1.54). No significant differences between learners in the three categories, livestock, business and crops, was found. Table 7 compares the responses of students, developers and deliverers.

Table 7

Additional Resources

Resource	Students n=374 mean	Developers n=32 mean	Deliverers n=127 mean
Other materials such as videos	2.26	2.43	3.15
Contact with subject area specialists	2.08	2.53	3.07
Local seminar on Home Study material	1.88	2.37	2.89
Computer software	1.83	1.93	2.68
Telephone tutoring support	1.75	2.06	2.61
Getting together with other Home Study students	1.54	2.28	2.88

Some Home Study courses, usually those referred to as workbook style, have incorporated exercises and quizzes in the course material. Students were asked to rate the extent to which they used the exercises, and how helpful they were in helping them understand the course material. Results indicate that over 50% of the respondents completed most, or all of the quizzes and exercises. (Table 8) Only 5.9%

of respondents felt they were not very helpful in understanding the material. The majority, 84.1%, felt the quizzes and exercises helped either somewhat, or a great deal in understanding the course. The remaining 9.8% reported the course they took had no quizzes and exercises.

Table 8

Completed Quizzes and Exercises

Number of Quizzes and Exercises Completed	n	%
Did not use the quizzes/exercises	35	9.7
A few of the quizzes/exercises	98	27.1
Most of the quizzes/exercises	118	32.7
All of the quizzes/exercises	78	20.9
There were no quizzes/exercises	32	9.8
Total	374	100.0

Using Chi-square analysis it was determined that significant differences existed between those who had taken a livestock, business or crops course, in the number of quizzes they completed and how helpful students perceived the quizzes to be. Those who took a livestock course were least likely to have completed the exercises and quizzes, with 38.7% completing most or all of the quizzes. This can be compared to 61.6% of business students, and 63.5% of crop students who reported completing most or all quizzes. Similarly, those who felt that the quizzes helped somewhat, or a great deal in understanding course material, numbered 70.5% for livestock; 88.6% for business, and 94.3% for crop students.

No significant relationship was found between learning style and the number of quizzes and exercises that students completed.

Research Question V

How satisfied are Home Study learners with the last Home Study course they enrolled in ?

Home Study learners reported a high level of satisfaction with the last course they enrolled in. Only 2.4 % of respondents were Dissatisfied or Very Dissatisfied. The remaining 97.6 % reported being either Satisfied (71.8 %), or Very Satisfied (25.1%) with their last course.

Using Chi square analysis, no significant difference was found in levels of satisfaction between the three groups of students. There was also no significant difference in the satisfaction levels of the four learning style groups. This would indicate that all learners were equally satisfied with Home Study courses, regardless of the course they enrolled in, or their learning style.

Research Question VI

Did learners perceive a change in behavior as a result of taking a Home Study course ?

Students were asked if they made any changes to their farm as a result of taking a Home Study course. Over half the respondents (58.5%) have made some changes to their farming practices, and an additional 7.2% have made significant changes. Only 8.6% of respondents said they would not be making any changes to their farm practices as a result of taking a course. There was no significant difference in the amount of change between the three categories of students. Neither was there

a significant relationship between the amount of change, and the type of producer, age, number of years farming, education level, or farm sales.

Research Question VII

What are the perceptions of course deliverers, and course developers towards the Home Study program ?

Generally, course deliverers (field staff who deliver services to farm clients) are knowledgeable about Home Study courses, and see benefits to encouraging contact between Home Study students and Alberta Agriculture district offices. When asked how familiar they were with Home Study courses, 71.4% indicated they were familiar with more than 2 courses. They were also familiar with farm clients who had taken a Home Study course; 72.3% knowing more than 5. Course deliverers see themselves mainly as course promoters, and secondly, as providing linkages between students and other resources. (Table 9)

Table 9

Course Deliverers Perceived Roles

Role	Mean score (on a 4 point scale, 1-Never, 4-Always)
Refer clients to Home Study courses	3.1
Promote courses	2.6
Link students to other resources	2.2
Interpret course material	1.9
Assist with application of course material	1.9
Provide solutions to problems	1.8
Other roles	2.2

Almost all course deliverers (95.9%) see benefits to encouraging informal contact between themselves and Home Study students. Comments specifying the benefits of such an arrangement were coded, and the most frequent comment (32.7%) was that students would have a local contact and would have someone to phone if they had problems with the course material. Almost all course deliverers would be willing to organize meetings with Home Study learners (91.1%), and to provide telephone or other one to one support to learners (91.9%).

Course developers, who are generally subject area specialists, were also asked about willingness to provide support to learners. Of the 32 respondents, 67.7% were willing to provide some individual support to learners. Other responses were: yes , to a limited amount (6.5%); no (19.4%); and, not enough time (3.2%).

Research Question VIII

What improvements to the Home Study program do learners and course developers suggest ?

Several questions were asked to determine what changes to Home Study courses, learners, developers and deliverers would perceive as improvements. First, learners were asked to rate factors that were important in determining whether they took a Home Study course. Secondly, learners were asked about the importance of receiving feedback on exercises, writing a final exam, and receiving a certificate for course completion. Lastly, learners and course developers were asked to rate a series of possible course improvements. Some of these responses have been reported

under Research Question IV, where students were asked about additional resources they thought would be helpful in completing a Home Study course.

Learners were asked to rate several factors in terms of their importance to determining whether they took a Home Study course. The factor that students rated the highest was, that they got to keep the binder afterwards to use as a reference. The second most important consideration was that they could work at home, and thirdly, that they could work at their own pace. Factors that were not considered important to these students were; that there was no final exam, and that they preferred to work alone.

Students were asked if they were interested in taking a final exam and receiving a certificate upon course completion. Just over half the respondents (52.4%) were not interested in a final exam. A cross tabulation was completed on the variables, interest in a final exam and category of student, and checked for significance using Chi-square. A significant difference, at the .05 level, was found between groups of students. Over half (56.2%) of the respondents in the crops group were interested in an exam, while livestock and business students were less interested (37.3% and 39.7%) There was no significant difference between responses of those in the different learning style groups. Course developers were also asked if they perceived any advantages to offering a final exam and certificate to learners. Most respondents, (60.2%) felt there were benefits to offering a final exam to students.

A majority of students (80.2%) would still have purchased the course if the exercises and exams were sent in for feedback. There was no significant relationship between either learning style, or category of student, and sending assignments in for feedback.

Learners and course developers were asked to rate a series of possible course improvements on a three point scale; 1 indicating it would not improve courses much, 2 indicating some improvement, and 3 indicating it would improve courses a lot. The items students believe would make the most improvement to Home Study courses are; providing other materials such as videos, and providing an index at the back of the binder. The item deemed to have the least impact on course improvement was, getting together with other Home Study students. Course developers also thought that providing other course materials would improve courses the most, followed by including more quizzes and self tests. Developers felt that providing computer software was the item least likely to improve courses. Course deliverers ranked providing an index, and more exercises using your own figures as the most important, and making the course more detailed as the least important. Results, using mean responses are presented in Table 10. (Course deliverer responses are not included because a different scale was used)

Research Question IX

Is there a significant relationship between learning style groups, (as defined by Kolb's Learning Style Inventory) and level of satisfaction; preference for learning resources; and behavior change as a result of taking a Home Study course?

Crosstabs were completed on several variables, and learning style to determine if any significant relationships existed. Chi-square analysis of the variables learning style and level of satisfaction with courses, did not reveal a significant relationship. Learners from each group were equally satisfied with their last course. Similarly, no significant relationship was found between the variables learning style

Table 10

Course Improvements

Course Improvement	Students n=374	Course Developers n=32
Provide other materials such as videos	2.2	2.4
Provide an index at the back of the binder	2.2	2.2
More illustrations	2.1	2.5
Contact with subject area specialists	2.0	2.5
More exercises using your own figures	2.0	2.4
More case studies and examples	1.9	2.3
Local seminar on Home Study material	1.8	2.3
Provide computer software	1.8	1.9
Make the course more detailed	1.8	2.0
Provide study hints	1.7	2.1
Telephone tutoring support	1.7	2.0
Make the course material easier to understand	1.6	2.1
More quizzes and self tests	1.6	1.9
Getting together with other Home Study students	1.5	2.2

and amount of change to farming practices, when the data was subjected to Chi-square analysis.

Other crosstabs were calculated to determine if students in different learning style groups preferred to learn in different ways. Learning style was paired with; the number of quizzes completed, preference for working alone, level of support for adding seminars to courses, and how important exercises using their own figures are. Using Chi-square analysis, none of the calculations revealed significant relationships between learning style and any of the above variables.

Summary

The analysis of the data revealed that Home Study learners are mainly male, between the ages of 26-40 years old, with more than 10 years of farming experience. When compared with results from a 1986 survey, (Ellis, 1986) the current student population has more female students, more couples who work on a course, and slightly older students. Younger farm producers were most likely to take a livestock production course, while older learners were most likely to enroll in business, or crop management courses. Female learners were concentrated in the business management courses.

Learners were distributed among the four learning styles, with the assimilative learning style having the largest group of learners. The majority of the students in the assimilator category were males, while female students were predominantly from the accomodator learning style category. The assimilative learner relies on abstract conceptualization and reflective observation in learning. These learners are skilled at understanding a wide range of information and organizing it into a concise, logical form.

Home Study students indicated a slight preference for reference style of course format, over a workbook style. Those in the livestock category showed a strong preference for the reference type of course material, while course developers and deliverers indicated a slight preference for reference style courses. Despite the preference for reference material (which does not contain quizzes and exercises), students were positive about incorporating exercises and quizzes into course material. They found them helpful in understanding the material, and over half the respondents completed most or all of the quizzes.

Students are very satisfied with Home Study courses, as indicated by survey responses. There were no significant differences in learner satisfaction, regardless of the course category, or learning style of the learner. Most learners also have made some changes to their farm practices as a result of taking a Home Study course. The amount of change made was also not influenced by demographic, or learning style variables.

Students indicated that courses could be improved by providing additional course materials, such as videos, and providing an index at the back of the binder. Students were also interested in receiving individual contact with a subject area specialist, but did not perceive telephone tutoring support, or getting together with other students as valuable improvements. Students in the crops category were most interested in a final exam being offered, while the other two groups felt an exam was not as important.

The learning style of the student was not found to have a significant relationship to variables measuring course satisfaction, amount of change made, and

preference for learning strategies (ie. workbook/reference, group/individual). A further discussion of learning style and its impact on learners is included in Chapter Five.

Chapter Five

Summary, Implications and Recommendations

The purpose of this research was to conduct an evaluation of the Alberta Agriculture Home Study Program. The learning styles of students were also determined, and relationships were tested to ascertain if learning style of the learner has implications for course design.

Summary

In March, 1992 a questionnaire was sent to a stratified random sample of Home Study learners. Names were drawn from mailing lists of students who have taken a course since 1986. Equal numbers of students were included from the three course categories identified; livestock, business management, and crops. A total of 374 (37.5%) responses were received, and considered usable. Similar questionnaires were sent to course developers (usually regional subject area specialists), and course deliverers (district home economists, district agriculturists and regional specialists), to determine their attitudes towards the Home Study program. Response to those questionnaires was 32 (80%), and 127 (67.9%) respectively.

Demographic Characteristics

This sample of Home Study students was primarily male, had more than 10 years of farming experience, was between the ages of 26-40 years, and had some university or technical training. More than half of the sample had less than $100,000 of annual farm sales. About half the respondents owned a computer, most of which are IBM compatible.

Other student profiles that emerged are that younger farmers tend to take production related courses, while almost half of those that took a business course had more than 20 years experience. Female students took mainly business management courses, and those that reported both having used the course (assuming husband and wife), were most likely to have enrolled in a livestock course. When students were asked where they receive important farm information, they rated print based material the highest, and conferences as the least important source.

When compared to a Home Study survey completed in 1986 (Ellis), the demographic profile has changed slightly. The current program attracts more female students, and couples who both work on the course. There are more older students in the current program, and fewer students that do not farm.

Student Experience with Home Study

Students were asked about course format, whether they completed the exercises and quizzes, what additional resources they used, what changes to their farming operation they made as a result of taking a Home Study course, and their level of satisfaction with their last Home Study course.

Two course formats that are used for Home Study courses were identified in the questionnaire; workbook, and reference. A workbook was described as a course that included exercises and quizzes within the chapter and a case study as an example. Students would work through this type of course. A reference style course was described as a place to look for information, something like an encyclopedia. Each course is offered in one format only, for example the course titled Profit; The Business of Farming, is workbook style, whereas the Beef Herd Management course is a

reference binder. Not all students would have experience with both course formats. This sample of students was evenly split when asked which of the two course formats they expected when registering in the course, and then which format they received. When asked which format they preferred, there was a slight preference for reference style course material. Students whose last Home Study course had been a livestock production course showed a significant preference for reference type courses.

Quizzes and exercises that were incorporated into courses were rated highly in terms of helping students to understand the material. Over half the respondents completed most, or all of the quizzes. Students were also asked if they used any other resources when completing the course. Alberta Agriculture publications, and Alberta Agriculture district staff were the resources most commonly used. Students would like to see more videos, and contact with Alberta Agriculture specialists as part of Home Study courses.

More than half the students who participated in the evaluation have made some changes to their farming practice as a result of taking a Home Study course. Less than 10% said they would not be making any changes to their farm. This result was not dependent on the age, type of farming operation, learning style or level of education of student. Students also reported being satisfied or very satisfied with the last Home Study course they enrolled in. Less than 3% of respondents were dissatisfied or very dissatisfied. All learners were equally satisfied with Home Study courses, regardless of the course they took, or their learning style.

Suggested Course Improvements

When students were asked to rate a series of possible course improvements, the two that they thought would most improve courses were; providing other resources such as videos, and including an index at the back of the binder. Students were least interested in getting together with other Home Study students. In terms of providing other forms of personal contact, they were most interested in contact with subject area specialists. Local seminars, and telephone tutoring support were not rated as highly. About half the respondents were interested in taking a final exam and receiving a certificate upon course completion. Significantly more students in the crops category were interested in the exam than those in the other two student categories. While interest in a final exam was split, students were more interested in sending exercises and exams in for feedback. Over 80% of students indicated they would still have purchased the course if exercises were sent in for feedback.

Attitudes of Home Study Course Developers and Deliverers

Course developers are a small group (n=32) of subject area specialists that work as part of a team to develop courses. Course writing and development would be in addition to their regular job duties. Course deliverers (n=127) are those people who work in the field, district home economists, district agriculturists and other specialists, who promote courses and have a lot of in person contact with farm clients. These two groups were asked about their attitudes towards the Home Study program, what they felt their roles were, and what improvements should be made to the program. Course deliverers perceive their role as mainly promotional and providing linkages between students and other resources. Deliverers are familiar with Home Study courses; most know more than five clients who have taken a Home Study

course. Almost all course deliverers see benefits to encouraging informal contact between themselves and students. The same high percentage (91%) would be willing to organize meetings with Home Study learners and provide telephone ,or other one -to-one support to learners. Course developers did not indicate as high an interest in providing individual support to learners. Lack of time was the reason most commonly mentioned.

Course improvements that were rated highest for developers and deliverers were; providing other learning resources, including an index in the binder, and incorporating more quizzes and exercises into course material. Both course deliverers and developers rated providing some form of contact with students higher than did the students.

Learning Style

Kolb's (1986) Learning Style Inventory was included in the questionnaire to provide further information about how this group of students learn. Comparisons were made between the four learning style groups and; satisfaction with courses, amount of practice change, and preference for learning strategies. There were no significant relationships between learning style and these variables.

Survey results were also tested for significance between learning style and other variables. No significant relationships were found when learning style was paired with: preference for workbook or reference, number of quizzes completed, preference for working alone, level of support for adding seminars to courses, and how important it was to apply course material to their own situations.

The only relationship that was found to be significant with learning style, was gender. Female learners were predominantly accommodative learners, and least likely to be convergers, while males students were most likely to be assimilators and least likely to be accomodators.

Implications and Conclusions

In this section, results from the data collection phase will be interpreted, to provide some direction for Home Study program administrators. Topics that will be addressed are: use of learning style information, design of distance education course materials, and possible future directions for the Home Study program.

Criticisms of learning style instruments, are apparent in the literature. The validity of Kolb's instrument has been questioned by several researchers, including Fox (1984) and Pigg et al. (1980). Both researchers were unable to find significant relationships between learners stated learning preferences and their learning style. Both Gregorc (1979) and Bonham (1988) caution against making costly changes to programs on the results of learning inventory scores. They feel that results must be considered within the context and purpose of the educational activity. While further explorations of the use of learning style instruments to understand learners is necessary, this analysis of learning style, as measured by Kolb's LSI (1986), indicated that learning style was not associated with any variance in student satisfaction as measured by this instrument.

The learners in this group may feel that Home Study is their best method of learning because it allows them work at home and at their own pace. It would seem that factors, other than learning style, are more important, and that learners are willing

to stretch, or accommodate their preferred learning style, in order to take advantage of the learning opportunity as it exists. Rather than planning changes to Home Study courses based on learning style information it may be necessary to evaluate the factors that learners perceive as important when they choose a method of course delivery.

Design of Distance Education Programs

Currently, Home Study courses are comprised of a binder of print material, with suggestions of additional resources included in the course. Organized contact and feedback is not a part of the program, although some students do take advantage of opportunities for contact with various Alberta Agriculture staff. Literature on distance education, extension, and change (Havelock,1973; Garrison,1989) suggests that planned, structured dialogue between learners and instructor, and between learners is a necessary component of an effective educational activity that produces change in behavior. The findings of this study challenge that idea. Home Study students reported making practice changes as a result of taking a Home Study course, even though dialogue and feedback were not introduced. When asked if they would like more formal contact with an instructor, or other learners, it was not rated as a high priority. Other studies of Home Study learners (Ellis, 1986; Passmore, 1988) support the same concept. Passmore, in interviews with Home Study learners, found that learners got support for their learning from family and community members. Respondents to the 1986 survey were also not interested in pre-arranged, or organized contact with an instructor.

Another concept that is discussed in the literature is the design of course materials. Several authors point to the importance of providing activities for learners to integrate new knowledge, and opportunities to explore and evaluate new ideas.

(Hayes, 1990) Other strategies for involving the learner in print materials are, legitimizing life experiences, use of experiential learning techniques, application of material, and promotion of learning partnerships. (Burge, 1988) Home Study courses developed in the past few years have strived to include some of these educational strategies. It may be that successfully incorporating activities and application of new ideas into courses has compensated for the lack of personal contact available to learners. Adult education authors like Knowles (1980) believe that adult learners prefer to be self directed, and take responsibility for their own learning. Results from this study would seem to support such an idea.

Future Directions for the Home Study Program

The factors that were most important to students in deciding to take a Home Study course were; they could keep the binder afterwards, they could work at home, and thirdly that they could work at their own pace. Respondents to this survey also indicated that print based material was one of the most important sources of information. The high level of satisfaction with Home Study courses expressed by students would seem to be because the courses met their needs for a convenient, flexible educational activity. Any changes to the program should be considered within the context of what students value about the current program. The high percentage of students who own computers (49.3%) might signal an opportunity to provide software for some courses. Students could retain the independence and flexibility of working at home, yet expand their access to information, and their ability to apply the information to their own situation. Other opportunities for change would include providing video tapes to accompany course material. Currently, usage of video tapes was low, but students indicated that including them in course material would be an important course improvement. Introducing opportunities for individual contact did not seem to be

important to learners, unless it was specialized contact with a subject area specialist. Workshops and seminars were not considered as important to learners.

The current trend of integrating existing knowledge of the learner through exercises, and providing opportunities for learners to apply the information to their farm seem to be well received by learners. The exercises and quizzes were seen as being helpful to understanding the material and many learners completed them. While final exams and certificates were not seen as important to learners (less than 50% thought exams were important), the concept of providing feedback to learners on completed exercises might be explored. A majority of learners (80%) indicated that they still would have purchased the course if exercises and quizzes were sent in for feedback. A further investigation would need to be undertaken to see if learners would actually send in the exercises for feedback, and if it would be perceived as a course improvement.

Results of this study indicate there may be opportunities for integrating the Home Study program with other resources already available in the department. Learners indicated they were interested in having contact with subject area specialists; existing field staff in district and regional offices could fulfill this function. The two groups of staff that were surveyed indicated they would be willing, and saw benefits to, integrating their services into the Home Study program.

The results of this study could have some impact on defining the role of Home Study courses within Alberta Agriculture. It seems important to define where these courses fit within the change process. (Havelock, 1973) If courses were to address stages two and three in the six phase adoption process, (creating interest and mental tryout), then existing field personnel could address the stages that require some

personal contact (trial, adoption and integration). This could reinforce the role of field personnel as educators; rather than a source of information only. Another related finding is learners preference for reference type course material. A further investigation could determine if learners prefer small, very specific modules, rather than a comprehensive binder. An introduction could possibly outline how these materials fit into the total educational service offered by Alberta Agriculture. It might also specify how the materials fit into a total business management scheme for their farm. Learners could be encouraged to design an educational plan for themselves that improves their farm managment skills, not just increasing their knowledge in one area.

The current focus of Alberta Agriculture educational programming is on improving the management skills of Alberta farmers. Results of this survey indicate that those who enrolled in a management Home Study course tended to be older farmers, with more experience. Younger farmers were more inclined to take livestock production related courses. Introducing more management concepts into the livestock courses would be one way of reaching younger producers with management information. Course focus and promotional materials might also be examined to determine if they could be made more appealing to younger learners.

Recommendations for Further Research

The field of distance education provides a wide range of opportunities for research. The following recommendations stem from the literature review and the results of this study.

1. The contribution of learning style instruments as a tool for planning educational programs should continue to be investigated. Different course formats, designed for a specific learning style, could be used to measure differences in satisfaction and behavior change between learning style groups.

2. The importance of providing interaction between instructor and student in a distance learning situation should be further explored to determine relationships between interaction and; student satisfaction, and change in behavior. The learners in this sample could be further studied to determine if students established personal contacts outside of the Home Study course that influenced their decision to make changes.

3. The factors that motivate students to complete a non-credit home study course could be investigated, to identify factors that affect course completion and application of course content. Learners could be asked to specify why they took a Home Study course, was it part of a total educational plan, or was it to fulfill a need for specific information.

Summary

This study was conducted to provide feedback to administrators of the Alberta Agriculture Home Study program. The Home Study program appears to be meeting the needs of Alberta farmers for up to date, convenient educational materials. Results indicate that learners are satisfied with the current program, and feel that courses have influenced their decision to make changes to their farm operation. Several course characteristics were identified by learners as being important, and should be considered as program changes are proposed. They are; that students like working at home, at their own pace, and like to keep the binder afterwards as a reference. They also felt the exercises were useful to understanding and applying the material.

Learning style did not affect any of the variables associated with learning preferences, satisfaction, or amount of change made. Further research would be required to determine the role of learning style in distance delivered courses.

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Appendix A - Questionnaire Instruments

Alberta
AGRICULTURE
Agricultural Education Branch
Home Study Section

2nd Floor, J.G. O'Donoghue Building, 7000 - 113 Street, Edmonton, Alberta, Canada T6H 5T6 403/427-2404

March 2, 1992

In 1986, Alberta Agriculture conducted a needs assessment and evaluation of its Home Study Program. The response rate was very high and the result was excellent feedback which has guided Home Study into new areas of course development and delivery.

As part of our continued commitment to address the needs of Home Study participants, Alberta Agriculture and the Faculty of Education at the University of Alberta are conducting a 1992 Home Study Survey.

We value your response and invite you to take this opportunity to provide input to determine future directions for the Home Study Program.

The enclosed questionnaire has been coded to make it possible to examine needs of specific agricultural commodity groups. However, to ensure confidentiality your name will not be attached to your responses.

Attached to the questionnaire is a Learning Style Inventory. The information provided by this inventory will help us design and deliver Home Study courses that are practical, interesting and challenging.

You are in no way obligated to complete this survey. To show our appreciation for the time you've taken, we will send out a $5.00 gift certificate to use towards the purchase of your next home study package and a summary of the survey results. If you have any questions, please contact Faye Douglas Phillips at 427-2404 (RITE: 147-2404).

After you've completed the questionnaire and Learning Style Inventory, please return them immediately in the enclosed stamped, self-addressed envelope.

Thank you very much for your response.

Sincerely,

Maureen Bauman
DHE, Morinville
Master's Candidate
Faculty of Education
University of Alberta

Faye Douglas Phillips, PHEc
Coordinator, Home Study Program
Alberta Agriculture

Printed on Recycled Paper

April 1, 1992

We appreciate that this is a very busy time of the year for farm families.

During the first week of March, a home study survey was sent to you to gather information about the needs of home study participants. To date we have not received your reply.

Your name was selected because you have purchased one of the following home study programs since the last survey was conducted:

1. A course in livestock production, The Beef Herd Management Reference Binder, or CowBytes or CowChip$ software package.

2. A business management course, such as Estate Planning, Understanding Profit or Home-Based Business.

3. A crop production course, such as Crop Protection, Soils, Weeds, Irrigation or Forage.

By completing the survey, you will assist us in our continued efforts to develop new programs that meet the needs of farm families and are practical, interesting and challenging. We value your input and are relying on you feedback to guide our future direction.

While you are not obligated to complete the survey, a $5.00 gift certificate towards the purchase of your next home study package and a summary of the survey results will be sent to you in appreciation of your response.

Enclosed is a replacement questionnaire in the event that the original has been misplaced. If you have questions, please contact Faye Douglas Phillips at 427-2404 or RITE: 147-2404.

After completing the questionnaire, please send it immediately in the stamped self-addressed envelope.

Thank you very much for your response.

Maureen Bauman
DHE, Morinville
Master's Candidate
Faculty of Education
University of Alberta

Faye Douglas Phillips, PHEc
Coordinator, Home Study Program
Alberta Agriculture

THE FUTURE OF HOME STUDY:

WHICH DIRECTION DO YOU PREFER?

This study will help us to better understand the information needs of Alberta's agricultural producers. What should the Home Study Program be offering to farmers and farm families to assist them in their work of producing food for Alberta and the world?

Answers to these questions will help in the design of future courses and the modification of others.

If you wish to comment on any question or expand your answers, please use the margins, the back of the questionnaire or a separate sheet of paper.

This study is sponsored by Alberta Agriculture in co-operation with the University of Alberta.

Please mail your completed questionnaire to:

Alberta Agriculture
Home Study Program
Agricultural Education Branch
2nd Floor, 7000 - 113 Street
Edmonton, Alberta T6H 5T6

(a self-addressed, stamped envelope is enclosed for this purpose)

Instructions: Please answer each question by circling the number that best describes your reaction to the question. The questionnaire and Learning Style Inventory should take about 20 minutes to complete. Thank you.

For office use

1. Please indicate how important the following sources of information are to you when making significant farm management, financial and production decisions. For each source of information please indicate whether it is Not Very Important, Somewhat Important, or Very Important. (1 - 4)

	NOT VERY IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	
1. ATTENDING COURSES AND SEMINARS	1	2	3	5 - 11
2. INDIVIDUAL CONTACT WITH SUBJECT AREA SPECIALISTS (industry and gov't)	1	2	3	
3. HOME STUDY COURSES	1	2	3	
4. FARM NEWSPAPERS AND PUBLICATIONS	1	2	3	
5. CONFERENCES	1	2	3	
6. OTHER FARMERS	1	2	3	
7. OTHER SOURCES _____	1	2	3	

2. Please tell us how important the following factors are when deciding to take an **Alberta Agriculture Home Study** course.

	NOT VERY IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	
1. CAN WORK AT MY OWN PACE	1	2	3	12 to 19
2. CAN WORK AT HOME	1	2	3	
3. PREFER TO WORK ALONE	1	2	3	
4. CAN KEEP THE BINDER AFTERWARD AS A REFERENCE	1	2	3	
5. WRITTEN MATERIAL IS EASIEST FOR ME TO LEARN FROM	1	2	3	
6. IT' S THE MOST CONVENIENT SOURCE OF THIS TYPE OF INFORMATION	1	2	3	
7. THERE ARE NO MARKED ASSIGNMENTS OR EXAMS	1	2	3	
8. OTHER _____	1	2	3	

When answering questions **3 - 8**, please think about the **MOST RECENT** Alberta Agriculture Home Study course you enrolled in.

For office use

3. Did you work on the Home Study course primarily: (Circle one)

1. INDEPENDENTLY — 20
2. WITH ANOTHER FAMILY MEMBER
3. OTHER _____

4. The person who used the Home Study course is: (Circle one)

1. FEMALE
2. MALE — 21
3. BOTH OF US USED THE HOME STUDY COURSE

5. Who did you share the information in the Home Study course with ? (Circle one)

1. SPOUSE
2. OTHER FAMILY MEMBERS — 22
3. FRIENDS AND NEIGHBORS
4. ALL OF THE ABOVE
5. DID NOT SHARE THE INFORMATION

6. How helpful were the exercises and quizzes in understanding the material ? (Circle one)

1. NOT VERY HELPFUL
2. HELPED SOMEWHAT — 23
3. HELPED A GREAT DEAL
4. THERE WERE NO EXERCISES OR QUIZZES

7. How many of the self quizzes and exercises did you complete, either on paper or in your head? (Circle one)

1. DID NOT USE THE QUIZZES/EXERCISES
2. A FEW OF THE QUIZZES/EXERCISES — 24
3. MOST OF THE QUIZZES/EXERCISES
4. ALL OF THE QUIZZES/EXERCISES
5. THERE WERE NO QUIZZES/EXERCISES

8. Please indicate if you referred to other **learning resources** that were listed in the course binder.

	NEVER	SOMETIMES	USUALLY	ALWAYS	For office use
1. RECOMMENDED VIDEOS	1	2	3	4	25 - 32
2. COMPUTER PROGRAM	1	2	3	4	
3. ALBERTA AGRICULTURE PUBLICATIONS	1	2	3	4	
4. OTHER PUBLICATIONS	1	2	3	4	
5. CONTACT WITH ALBERTA AGRICULTURE SPECIALISTS	1	2	3	4	
6. CONTACT WITH ALBERTA AGRICULTURE DISTRICT STAFF	1	2	3	4	
7. CONTACT WITH OTHER RESOURCE PEOPLE	1	2	3	4	
8. OTHER _____	1	2	3	4	

We have identified two forms of Home Study materials.

The WORKBOOK type includes exercises within the chapter, using your own situation, or a case study as an example. A student would work through this type of Home Study.

A REFERENCE type Home Study could be described as a reference book; a place to look for information when you have a specific question, something like an encyclopedia.

9. When you ordered the **most recent** Home Study course, which of these two were you expecting? (Circle one)

1. WORKBOOK
2. REFERENCE

33

10. Now that you have received the Home Study course would you describe the course as a WORKBOOK or REFERENCE ? (Circle one)

1. WORKBOOK
2. REFERENCE

34

11. Which Home Study format do you prefer ? (Circle one)

1. WORKBOOK
2. REFERENCE

35

12. How often do you refer to the Home Study binder when making management, financial or production decisions ? (Circle one)

For office use

1. NEVER
2. SOMETIMES
3. USUALLY
4. ALWAYS

36

13. As a **result** of taking a Home Study course I: (Circle one)

1. WILL NOT BE MAKING ANY CHANGES TO MY FARM PRACTICES
2. AM CONSIDERING MAKING CHANGES TO MY FARM PRACTICES
3. HAVE MADE SOME CHANGES TO MY FARM PRACTICES
4. HAVE MADE SIGNIFICANT CHANGES TO MY FARM PRACTICES

37

14. Describe any specific actions you've taken as a result of taking a Home Study course.

_____

_____

_____

38

15. How satisfied were you with the most recent Home Study course you enrolled in ? (Circle one)

1. VERY SATISFIED
2. SATISFIED
3. DISSATISFIED
4. VERY DISSATISFIED

39 - 40

If you were dissatisfied please tell us why.

_____

_____

_____

16. To what degree do the following factors affect your ability to complete a Home Study course ?

	NOT MUCH	SOME	A LOT	For office use
1. SETTING ASIDE TIME TO WORK ON THE COURSE	1	2	3	41 -45
2. NO CONTACT WITH OTHER STUDENTS	1	2	3	
3. NO CONTACT WITH INSTRUCTOR	1	2	3	
4. NOT RECEIVING FEEDBACK ON PROGRESS	1	2	3	
5. OTHER _____	1	2	3	

17. Please indicate to what extent you think the following items would **improve** Home Study courses.

	NOT MUCH	SOME	A LOT	
1. MORE QUIZZES AND SELF TESTS	1	2	3	46 - 60
2. MORE ILLUSTRATIONS	1	2	3	
3. GETTING TOGETHER WITH OTHER HOME STUDY STUDENTS	1	2	3	
4. LOCAL SEMINAR ON HOME STUDY MATERIAL	1	2	3	
5. TELEPHONE TUTORING SUPPORT	1	2	3	
6. CONTACT WITH SUBJECT AREA SPECIALISTS	1	2	3	
7. MORE EXERCISES USING YOUR OWN FIGURES	1	2	3	
8. PROVIDE AN INDEX AT THE BACK OF THE BINDER	1	2	3	
9. PROVIDE OTHER MATERIALS SUCH AS VIDEOS	1	2	3	
10. MAKE THE COURSE MATERIAL EASIER TO UNDERSTAND	1	2	3	
11. MAKE THE COURSE MORE DETAILED	1	2	3	
12. PROVIDE COMPUTER SOFTWARE	1	2	3	
13. MORE CASE STUDIES AND EXAMPLES	1	2	3	
14. PROVIDE STUDY HINTS	1	2	3	
15. OTHERS _____	1	2	3	

For office use

18. Would you be interested in taking a final exam and receiving a certificate after completing a Home Study course ? (Circle one) 61

1. YES

2. NO

19. Would you still have purchased the course if exercises and exams were sent in for feedback ? (Circle one) 62

1. YES

2. NO

20. Have you ever attended a course or workshop offered by the Alberta Agriculture District Office ? (Circle one) 63

1. YES

2. NO

21. If YES, approximately how many days did you spend at Alberta Agriculture sponsored courses in the past 12 months? (March, 1991 - March, 1992) 64

1. 1 - 2 DAYS

2. 2 - 5 DAYS

3. MORE THAN 5 DAYS

22. Please indicate your **level of interest** in the following topic areas. On the left hand side check off the subject areas that pertain to your farm, and then indicate your level of interest for more study materials on each topic under that heading. Under "OTHER" please specify any other area of interest to you.

	NONE	LOW	MEDIUM	HIGH	
__ Beef production					65 - 73
NUTRITION AND FEEDING	1	2	3	4	
FEEDLOT MANAGEMENT	1	2	3	4	
GRASSLAND MANAGEMENT	1	2	3	4	
GENETICS/REPRODUCTION	1	2	3	4	
HEALTH & PEST MANAGEMENT	1	2	3	4	
FEEDING & HANDLING FACILITIES	1	2	3	4	
ECONOMICS/FINANCE	1	2	3	4	
OTHER _____	1	2	3	4	

	NONE	LOW	MEDIUM	HIGH	For office use
_ Dairy production					
NUTRITION AND FEEDING	1	2	3	4	74 - 82
HERD HEALTH	1	2	3	4	
QUALITY MILK PRODUCTION	1	2	3	4	
MILK RECORDING	1	2	3	4	
FEEDING & HANDLING FACILITIES	1	2	3	4	
GENETICS/REPRODUCTION	1	2	3	4	
ECONOMICS/FINANCE	1	2	3	4	
OTHER _____	1	2	3	4	
_ Pork production					
NUTRITION AND FEEDING	1	2	3	4	83 - 91
SWINE HEALTH	1	2	3	4	
FARROWING/WEANER/FINISHING MANAGEMENT	1	2	3	4	
GENETICS/REPRODUCTION	1	2	3	4	
RECORD KEEPING	1	2	3	4	
FEEDING & HANDLING FACILITIES	1	2	3	4	
ECONOMICS/FINANCE	1	2	3	4	
OTHER _____	1	2	3	4	
_ Marketing (livestock)					
BEEF CATTLE (fat cattle, calves, feeders, breeding)	1	2	3	4	92 - 94
HOGS (market, feeders, breeding)	1	2	3	4	
_ Marketing (grain)					
MARKET STRATEGIES	1	2	3	4	95 - 100
FUTURES/COMMODITIES MARKETS	1	2	3	4	
OPTIONS & OPTIONS STRATEGIES	1	2	3	4	
INDUSTRY/TRANSPORTATION CONCERNS	1	2	3	4	
OTHER _____	1	2	3	4	
_ Crop management					
CROP VARIETIES	1	2	3	4	101 - 110
SPECIAL CROPS	1	2	3	4	
FORAGES	1	2	3	4	
CROP ROTATIONS	1	2	3	4	
SEEDING TECHNIQUES	1	2	3	4	
PEST CONTROL	1	2	3	4	
INTEGRATED PEST MANAGEMENT	1	2	3	4	
ECONOMICS OF PRODUCTION	1	2	3	4	
OTHER _____	1	2	3	4	

	NONE	LOW	MEDIUM	HIGH	For office use
_ Soil and water management					
REDUCED TILLAGE	1	2	3	4	111 - 120
FIELD SHELTERBELTS	1	2	3	4	
STRIP CROPPING	1	2	3	4	
WIND/WATER EROSION CONTROL	1	2	3	4	
SALINITY CONTROL	1	2	3	4	
SOIL MOISTURE MANAGEMENT	1	2	3	4	
WATER MANAGEMENT/SOURCING	1	2	3	4	
CONSERVATION PLANNING	1	2	3	4	
OTHER _____	1	2	3	4	
_ Financial management					
FINANCIAL RECORD KEEPING	1	2	3	4	121 - 131
RECORD ANALYSIS	1	2	3	4	
CASHFLOW PLANNING	1	2	3	4	
CREDIT MANAGEMENT	1	2	3	4	
MANAGING RISK AND UNCERTAINTY	1	2	3	4	
TAX PLANNING	1	2	3	4	
ANALYZING INVESTMENT ALTERNATIVES	1	2	3	4	
BUSINESS ARRANGEMENTS	1	2	3	4	
PERSONAL FINANCIAL PLANNING	1	2	3	4	
OTHER _____	1	2	3	4	
_ Farm management					
USING COMPUTERS FOR MANAGEMENT	1	2	3	4	132 - 137
DECISION MAKING AND PLANNING	1	2	3	4	
SETTING BUSINESS GOALS	1	2	3	4	
PLANNING BUSINESS TRANSITION	1	2	3	4	
OTHER _____	1	2	3	4	
_ Managing human relations on the farm					
STRESS MANAGEMENT	1	2	3	4	138 - 144
COMMUNICATION	1	2	3	4	
RESOLVING CONFLICT	1	2	3	4	
RETIREMENT PLANNING	1	2	3	4	
LABOR MANAGEMENT	1	2	3	4	
OTHER _____	1	2	3	4	
_ Other					
HOME BASED BUSINESS	1	2	3	4	145 - 153
FARM DIVERSIFICATION	1	2	3	4	
MANAGING WILDLIFE SPECIES	1	2	3	4	
PROTECTIVE CLOTHING	1	2	3	4	
ENVIRONMENTALLY FRIENDLY PRODUCTION METHODS	1	2	3	4	
ANIMAL WELFARE	1	2	3	4	
FOOD AND ENVIRONMENTAL SAFETY	1	2	3	4	
SUSTAINABLE LIVESTOCK PRODUCTION	1	2	3	4	

Please tell us about your farm. **For office use**

23. Check off the production area that contributes the most to your gross sales. (Circle one)

1. HOGS 154
2. BEEF OR DAIRY
3. SPECIALTY CROPS
4. CEREAL AND GRAIN CROPS
5. OTHER _____

24. How many years have you been farming ? (Circle one)

1. 0 - 5 YEARS 155
2. 6 - 10 YEARS
3. 11 - 20 YEARS
4. OVER 20 YEARS

25. Which age category do you belong in ? (Circle one)

1. 18 - 25 YEARS 156
2. 26 - 40 YEARS
3. 41 - 55 YEARS
4. OVER 55 YEARS

26. What is the **highest level** of education you have completed ? (Circle one)

1. LESS THAN HIGH SCHOOL 157
2. COMPLETED HIGH SCHOOL
3. SOME UNIVERSITY OR TECHNICAL TRAINING
4. COMPLETED UNIVERSITY OR TECHNICAL TRAINING

27. What is your approximate gross sales from farm products ? (Circle one)

1. $2,500 - $24,999/ YEAR 158
2. $25,000 - $99,999/ YEAR
3. $100,000 - $249,999/ YEAR
4. $250,000 AND OVER/ YEAR

For office use

28. Do you own a home computer ? (Circle one)

1. YES 159

2. NO

29. If **YES**, for what purpose is the computer usually used ? (Circle one)

1. MAINLY FOR FARM RECORDS AND DECISION MAKING 160

2. MAINLY FOR WORD PROCESSING

3. MAINLY FOR GAMES AND ENTERTAINMENT

4. USED FOR ALL OF THE ABOVE

5. OTHER USES _____

30. Is your computer IBM compatible ?

1. YES 161

2. NO

31. Do you use a modem to access information?

1. YES 162

2. NO

32. Do you have any other comments about the Home Study program ? (If you need more space use the back of this page.)

_____

_____

_____

_____

_____

_____

After completing the questionnaire please fill out the Learning Style Inventory and return both in the stamped, self-addressed envelope.

THANK YOU FOR YOUR COOPERATION !

For office use

28. Do you own a home computer ? (Circle one) 159

1. YES

2. NO

29. If **YES**, for what purpose is the computer usually used ? (Circle one) 160

1. MAINLY FOR FARM RECORDS AND DECISION MAKING

2. MAINLY FOR WORD PROCESSING

3. MAINLY FOR GAMES AND ENTERTAINMENT

4. USED FOR ALL OF THE ABOVE

5. OTHER USES _____

30. Is your computer IBM compatible ? 161

1. YES

2. NO

31. Do you use a modem to access information? 162

1. YES

2. NO

32. Do you have any other comments about the Home Study program ? (If you need more space use the back of this page.)

_____

_____

_____

_____

_____

_____

After completing the questionnaire please fill out the Learning Style Inventory and return both in the stamped, self-addressed envelope.

THANK YOU FOR YOUR COOPERATION !

Alberta MEMORANDUM

AGRICULTURE

FROM Faye Douglas Phillips, PHEc
Home Study Coordinator
Maureen Bauman, Masters Candidate
University of Alberta

OUR FILE REFERENCE

YOUR FILE REFERENCE

TO HOME STUDY COURSE DEVELOPERS

DATE March 19, 1992

TELEPHONE

SUBJECT **HOME STUDY SURVEY**

As I have mentioned in previous correspondence, the Home Study Program is conducting a needs assessment and evaluation.

As part of our continued commitment to address client needs, the Home Study Program and the Faculty of Education at the University of Alberta are conducting this as a follow-up to the 1986 needs assessment and evaluation.

We are pleased that this survey has been expanded to provide opportunities for "course developers" to also have input. We value your response and invite you to take this opportunity to provide input in determining future directions for the Home Study Program. Please answer the questions from the point of view of being a course author or course initiator.

The enclosed questionnaire has been coded in order to keep the responses from course deliverers and course developers separate. To ensure confidentiality, your name is not attached to your responses. Please feel free to write any other comments you have related to the questions.

Attached to the questionnaire is a Learning Style Inventory. The information provided by this inventory will help us design and deliver Home Study Courses that are practical, interesting and challenging.

If you feel comfortable putting your name on the back page or wish to keep track of the number on the survey you receive we'd be happy to provide you with personalized information on your learning style. Since this is not part of the research project, it would be done separately after all the other data entry and analysis has been completed.

. . . 2/

You are in no way obligated to complete this survey, but we hope you'll take the time to share your views with us. If you have any questions, please contact Faye Douglas Phillips at 427-2404 (RITE: 147-2404).

After you've completed the questionnaire, please return it immediately using the courier envelope provided.

Thank you.

Faye Douglas Phillips

Maureen Bauman

Faye Douglas Phillips, PHEc
Home Study Coordinator

Maureen Bauman, Masters Candidate
University of Alberta

/aow
Attach.

Alberta MEMORANDUM

AGRICULTURE

Faye Douglas Phillips, PHEc
Home Study Coordinator
FROM Maureen Bauman, Masters Candidate
University of Alberta

OUR FILE REFERENCE

YOUR FILE REFERENCE

TO HOME STUDY COURSES DEVELOPERS AND DELIVERERS

DATE March 30, 1992

TELEPHONE

SUBJECT **HOME STUDY SURVEY**

As part of our continued commitment to address the needs of Home Study participants, Alberta Agriculture and the Faculty of Education at the University of Alberta sent out Home Study Surveys for "Course Developers" and "Course Deliverers" in the third week of March.

If you have already returned your completed survey, thank you very much for your response.

If you have not yet completed the survey, we would sincerely like to have your input. Please take this opportunity to fill in the survey and return it in the courier envelope provided.

If you did not receive or misplaced the survey, or if you have other questions, please contact Faye Douglas Phillips at 427-2404 or RITE: 147-2404.

You are not obligated to complete this survey. We appreciate the time you've taken to return the survey. The results of the Home Study Needs Assessment and Evaluation will be sent out as soon as they are available.

Thank you very much for your response.

Maureen Bauman
DHE, Morinville
Masters Candidate
Faculty of Education
University of Alberta

Faye Douglas Phillips
Faye Douglas Phillips, PHEc
Coordinator, Home Study Program

/aow

HOME STUDY SURVEY

109

COURSE DEVELOPERS

Thank you for taking the time to provide us with feedback about the Home Study program. The questionnaire should take about 10 minutes to fill out. Please circle the response that best describes your reaction to the question. Wherever "OTHER" is listed in a question, please specify.

After completing the questionnaire, enclose it in the addressed envelope and send it back to us via courier.

Thank you for your cooperation!

For Office Use

1. How important do you think farm clients rate the following factors in their decision to take a Home Study course.

1 to 4

	NOT VERY IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT
1. CAN WORK AT MY OWN PACE	1	2	3
2. CAN WORK AT HOME	1	2	3
3. PREFER TO WORK ALONE	1	2	3
4. CAN KEEP THE BINDER AFTERWARD AS A REFERENCE	1	2	3
5. WRITTEN MATERIAL IS EASIEST FOR ME TO LEARN FROM	1	2	3
6. IT' S THE MOST CONVENIENT SOURCE OF THIS TYPE OF INFORMATION	1	2	3
7. THERE ARE NO MANDATORY MARKED ASSIGNMENTS OR EXAMS	1	2	3
8. OTHER _____	1	2	3

5 to12

2. Please indicate to what extent you think the following items would improve Home Study courses for the learner.

	NOT MUCH	SOME	A LOT
1. MORE QUIZZES AND SELF TESTS	1	2	3
2. MORE ILLUSTRATIONS	1	2	3
3. GETTING HOME STUDY STUDENTS TOGETHER WITH OTHER STUDENTS	1	2	3
4. LOCAL SEMINAR ON HOME STUDY MATERIAL	1	2	3
5. TELEPHONE TUTORING SUPPORT	1	2	3

13 to 17

	NOT MUCH	SOME	A LOT	For Office Use
6. CONTACT WITH SUBJECT AREA SPECIALISTS	1	2	3	18 to 27
7. MORE EXERCISES USING THEIR OWN FIGURES	1	2	3	
8. PROVIDE AN INDEX AT THE BACK OF THE BINDER	1	2	3	
9. PROVIDE OTHER MATERIALS, SUCH AS VIDEOS	1	2	3	
10. MAKE THE COURSE MATERIAL EASIER TO UNDERSTAND	1	2	3	
11. MAKE THE COURSE MORE DETAILED	1	2	3	
12. PROVIDE COMPUTER SOFTWARE	1	2	3	
13. MORE CASE STUDIES AND EXAMPLES	1	2	3	
14. PROVIDE STUDY HINTS	1	2	3	
15. OTHERS _____	1	2	3	

3. Would you be willing to provide telephone or other types of one-on-one support to home study learners? (Circle one)

1. YES

2. NO

28

4. Please indicate the **level of interest** you think farm families would have for more study materials on the following topics, taking into consideration the current agricultural climate and the needs of farm families in your area. Check off on the left hand side the topic areas you are familiar with, then indicate the level of interest for each topic under that heading.

	NONE	LOW	MEDIUM	HIGH	
__ **Beef production**					
NUTRITION AND FEEDING	1	2	3	4	29 to 37
FEEDLOT MANAGEMENT	1	2	3	4	
GRASSLAND MANAGEMENT	1	2	3	4	
GENETICS/REPRODUCTION	1	2	3	4	
HEALTH & PEST MANAGEMENT	1	2	3	4	
FEEDING & HANDLING FACILITIES	1	2	3	4	
ECONOMICS/FINANCE	1	2	3	4	
OTHER _____	1	2	3	4	

	NONE	LOW	MEDIUM	HIGH	111 For Office Use
__ **Dairy production**					
NUTRITION AND FEEDING	1	2	3	4	
HERD HEALTH	1	2	3	4	
QUALITY MILK PRODUCTION	1	2	3	4	38 to 46
MILK RECORDING	1	2	3	4	
FEEDING & HANDLING FACILITIES	1	2	3	4	
GENETICS/REPRODUCTION	1	2	3	4	
ECONOMICS/FINANCE	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Pork production**					
NUTRITION AND FEEDING	1	2	3	4	47 to 55
SWINE HEALTH	1	2	3	4	
FARROWING/WEANER/FINISHING MANAGEMENT	1	2	3	4	
GENETICS/REPRODUCTION	1	2	3	4	
RECORD KEEPING	1	2	3	4	
FEEDING & HANDLING FACILITIES	1	2	3	4	
ECONOMICS/FINANCE	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Marketing (livestock)**					
BEEF CATTLE (fat cattle, calves, feeders, breeding)	1	2	3	4	56 to 58
HOGS (market, feeders, breeding)	1	2	3	4	
__ **Marketing (grain)**					
MARKET STRATEGIES	1	2	3	4	59 to 64
FUTURES/COMMODITIES MARKETS	1	2	3	4	
OPTIONS & OPTIONS STRATEGIES	1	2	3	4	
INDUSTRY/TRANSPORTATION CONCERNS	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Crop management**					
CROP VARIETIES	1	2	3	4	
SPECIAL CROPS	1	2	3	4	65 to 74
FORAGES	1	2	3	4	
CROP ROTATIONS	1	2	3	4	
SEEDING TECHNIQUES	1	2	3	4	
PEST CONTROL	1	2	3	4	
INTEGRATED PEST MANAGEMENT	1	2	3	4	
ECONOMICS OF PRODUCTION	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Soil and water management**					
REDUCED TILLAGE	1	2	3	4	75 to 84
FIELD SHELTERBELTS	1	2	3	4	
STRIP CROPPING	1	2	3	4	
WIND/WATER EROSION CONTROL	1	2	3	4	
SALINITY CONTROL	1	2	3	4	
SOIL MOISTURE MANAGEMENT	1	2	3	4	
WATER MANAGEMENT/SOURCING	1	2	3	4	
CONSERVATION PLANNING	1	2	3	4	
OTHER _____	1	2	3	4	

	NONE	LOW	MEDIUM	HIGH	For Office Use
__ **Financial management**					
FINANCIAL RECORD KEEPING	1	2	3	4	
RECORD ANALYSIS	1	2	3	4	85 to 95
CASHFLOW PLANNING	1	2	3	4	
CREDIT MANAGEMENT	1	2	3	4	
MANAGING RISK AND UNCERTAINTY	1	2	3	4	
TAX PLANNING	1	2	3	4	
ANALYZING INVESTMENT ALTERNATIVES	1	2	3	4	
BUSINESS ARRANGEMENTS	1	2	3	4	
PERSONAL FINANCIAL PLANNING	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Farm management**					
USING COMPUTERS FOR MANAGEMENT	1	2	3	4	
DECISION MAKING AND PLANNING	1	2	3	4	96 to 101
SETTING BUSINESS GOALS	1	2	3	4	
PLANNING BUSINESS TRANSITION	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Managing human relations on the farm**					
STRESS MANAGEMENT	1	2	3	4	102 to 108
COMMUNICATION	1	2	3	4	
RESOLVING CONFLICT	1	2	3	4	
RETIREMENT PLANNING	1	2	3	4	
LABOR MANAGEMENT	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Other**					
HOME BASED BUSINESS	1	2	3	4	109 to 117
FARM DIVERSIFICATION	1	2	3	4	
MANAGING WILDLIFE SPECIES	1	2	3	4	
PROTECTIVE CLOTHING	1	2	3	4	
ENVIRONMENTALLY FRIENDLY PRODUCTION METHODS	1	2	3	4	
ANIMAL WELFARE	1	2	3	4	
FOOD AND ENVIRONMENTAL SAFETY	1	2	3	4	
SUSTAINABLE LIVESTOCK PRODUCTION	1	2	3	4	

There are two formats which are often used for educational materials.

The WORKBOOK type includes information which is backed up by exercises within the chapter. Participants use their own situation or a case study as an example to work through this type of study material.

A REFERENCE type which could be described as a reference book; a place for students to look for information when they have a specific question, something like an encyclopedia.

5. Would you describe Home Study courses in general, as: (Circle one)

118

1. WORKBOOK

2. REFERENCE

For Office Use

6. Which format do you think is most useful for farm clients? (Circle one)

1. WORKBOOK

2. REFERENCE

119

7. Do you see benefits in adding certificates and final exams to courses? (Circle one)

1. YES WHY ? _____

2. NO WHY ? _____

120

8. Do you have any other comments on the Home Study program ?

_____

_____

_____

_____

_____

_____

THANK YOU FOR YOUR COOPERATION !

After completing the questionnaire, please enclose it in the self-addressed envelope and send it through courier mail immediately.

HOME STUDY SURVEY

REGIONAL SPECIALISTS & DISTRICT STAFF

Thank you for taking the time to provide us with feedback about the Home Study program. The questionnaire should take about 10 minutes to fill out. Please circle the response that best describes your reaction to the question. Wherever "OTHER" is listed in a question, please specify.

After completing the questionnaire, enclose it in the addressed envelope and send it back to us via courier. Thank you for your cooperation!

For Office Use

1 to 4

1. How familiar are you with the **Home Study** courses offered jointly by Alberta Agriculture and R.E.D.A? (Circle one)

   1. FAMILIAR WITH MORE THAN 2 COURSES
   2. FAMILIAR WITH 1 OR 2 COURSES
   3. KNOW THEY EXIST BUT HAVE NEVER LOOKED AT THEM
   4. NEVER HEARD OF THEM

5

2. (SPECIALISTS SKIP TO QUESTION #3) How many farmers are you aware of in your area who have taken a Home Study course ? (Circle one)

   1. MORE THAN FIVE
   2. BETWEEN ONE AND FIVE
   3. NONE

6

3. To what extent have you acted in the following roles, with respect to Home Study course material ?

	NEVER	SOMETIMES	USUALLY	ALWAYS
1. PROMOTE COURSES	1	2	3	4
2. INTERPRET COURSE MATERIAL	1	2	3	4
3. ASSIST WITH APPLICATION OF COURSE MATERIAL	1	2	3	4
4. PROVIDE SOLUTIONS TO PROBLEMS	1	2	3	4
5. LINK STUDENTS TO OTHER RESOURCES	1	2	3	4
6. OTHER ROLES _____	1	2	3	4

7 to 12

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4. Do you see any benefits to encouraging informal contact between district and regional offices and home study participants? (i.e., providing students with lists of department resource people, providing field staff with district lists of participants, offering local seminars, etc.)

13 to 14

1. YES If yes, then what are the benefits ?

_____

2. NO If no, why not ?

_____

5. How often have you referred clients to Home Study courses ? (Circle one)

15

1. NEVER
2. SELDOM
3. SOMETIMES
4. FREQUENTLY

We have identified two forms of Home Study materials.

The WORKBOOK type includes exercises within the chapter, using a student's own situation, or a case study as an example. A student would work through this type of Home Study.

A REFERENCE type Home Study could be described as a reference book, a place for students to look for information when they have a specific question, something like an encyclopedia.

6. Do you think of existing Home Study courses as primarily :

16

1. WORKBOOK
2. REFERENCE

7. Which format do you think is most useful for farm clients ?

17

1. WORKBOOK
2. REFERENCE

8. From your experience with Home Study courses please indicate to what extent you think the following items would improve Home Study courses for the learner (IF YOU ARE NOT FAMILIAR WITH HOME STUDY COURSES, SKIP TO QUESTION #9).

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	NOT SURE	NOT MUCH	SOME	A LOT	
1. MORE QUIZZES AND SELF TESTS	1	2	3	4	18 to 32
2. MORE ILLUSTRATIONS	1	2	3	4	
3. GETTING HOME STUDY STUDENTS TOGETHER WITH OTHER STUDENTS	1	2	3	4	
4. LOCAL SEMINAR ON HOME STUDY MATERIAL	1	2	3	4	
5. TELEPHONE TUTORING SUPPORT	1	2	3	4	
6. CONTACT WITH SUBJECT AREA SPECIALISTS	1	2	3	4	
7. MORE EXERCISES USING THEIR OWN FIGURES	1	2	3	4	
8. PROVIDE AN INDEX AT THE BACK OF THE BINDER	1	2	3	4	
9. PROVIDE OTHER MATERIALS SUCH AS VIDEOS	1	2	3	4	
10. MAKE THE COURSE MATERIAL EASIER TO UNDERSTAND	1	2	3	4	
11. MAKE THE COURSE MORE DETAILED	1	2	3	4	
12. PROVIDE COMPUTER SOFTWARE	1	2	3	4	
13. MORE CASE STUDIES AND EXAMPLES	1	2	3	4	
14. PROVIDE STUDY HINTS	1	2	3	4	
15. OTHERS _____	1	2	3	4	

9. Would you be willing to organize meetings with interested Home Study learners ? (Circle one) 33

1. YES
2. NO

10. Would you be willing to provide telephone or other types of one-on-one support to home study learners? (Circle one) 34

1. YES
2. NO

11. Please indicate the **level of interest** you think farm families would have for more study materials on the following topics, taking into consideration the current agricultural climate and the needs of farm families in your area. Check off on the left hand side the topic areas you are familiar with, then indicate the level of interest for each topic under that heading.

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	NONE	LOW	MEDIUM	HIGH	
__ **Beef production**					
NUTRITION AND FEEDING	1	2	3	4	35 to 43
FEEDLOT MANAGEMENT	1	2	3	4	
GRASSLAND MANAGEMENT	1	2	3	4	
GENETICS/REPRODUCTION	1	2	3	4	
HEALTH & PEST MANAGEMENT	1	2	3	4	
FEEDING & HANDLING FACILITIES	1	2	3	4	
ECONOMICS/FINANCE	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Dairy production**					
NUTRITION AND FEEDING	1	2	3	4	44 to 52
HERD HEALTH	1	2	3	4	
QUALITY MILK PRODUCTION	1	2	3	4	
MILK RECORDING	1	2	3	4	
FEEDING & HANDLING FACILITIES	1	2	3	4	
GENETICS/REPRODUCTION	1	2	3	4	
ECONOMICS/FINANCE	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Pork production**					
NUTRITION AND FEEDING	1	2	3	4	53 to 61
SWINE HEALTH	1	2	3	4	
FARROWING/WEANER/FINISHING MANAGEMENT	1	2	3	4	
GENETICS/REPRODUCTION	1	2	3	4	
RECORD KEEPING	1	2	3	4	
FEEDING & HANDLING FACILITIES	1	2	3	4	
ECONOMICS/FINANCE	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Marketing (livestock)**					
BEEF CATTLE (fat cattle, calves, feeders, breeding)	1	2	3	4	62 to 64
HOGS (market, feeders, breeding)	1	2	3	4	
__ **Marketing (grain)**					
MARKET STRATEGIES	1	2	3	4	65 to 70
FUTURES/COMMODITIES MARKETS	1	2	3	4	
OPTIONS & OPTIONS STRATEGIES	1	2	3	4	
INDUSTRY/TRANSPORTATION CONCERNS	1	2	3	4	
OTHER _____	1	2	3	4	
__ **Crop management**					
CROP VARIETIES	1	2	3	4	71 to 80
SPECIAL CROPS	1	2	3	4	
FORAGES	1	2	3	4	
CROP ROTATIONS	1	2	3	4	
SEEDING TECHNIQUES	1	2	3	4	

	NONE	LOW	MEDIUM	HIGH	For Office Use
PEST CONTROL	1	2	3	4	
INTEGRATED PEST MANAGEMENT	1	2	3	4	
ECONOMICS OF PRODUCTION	1	2	3	4	
OTHER _____	1	2	3	4	
__ Soil and water management					
REDUCED TILLAGE	1	2	3	4	81 to 90
FIELD SHELTERBELTS	1	2	3	4	
STRIP CROPPING	1	2	3	4	
WIND/WATER EROSION CONTROL	1	2	3	4	
SALINITY CONTROL	1	2	3	4	
SOIL MOISTURE MANAGEMENT	1	2	3	4	
WATER MANAGEMENT/SOURCING	1	2	3	4	
CONSERVATION PLANNING	1	2	3	4	
OTHER _____	1	2	3	4	
__ Financial management					
FINANCIAL RECORD KEEPING	1	2	3	4	91 to 101
RECORD ANALYSIS	1	2	3	4	
CASHFLOW PLANNING	1	2	3	4	
CREDIT MANAGEMENT	1	2	3	4	
MANAGING RISK AND UNCERTAINTY	1	2	3	4	
TAX PLANNING	1	2	3	4	
ANALYZING INVESTMENT ALTERNATIVES	1	2	3	4	
BUSINESS ARRANGEMENTS	1	2	3	4	
PERSONAL FINANCIAL PLANNING	1	2	3	4	
OTHER _____	1	2	3	4	
__ Farm management					
USING COMPUTERS FOR MANAGEMENT	1	2	3	4	102 to 107
DECISION MAKING AND PLANNING	1	2	3	4	
SETTING BUSINESS GOALS	1	2	3	4	
PLANNING BUSINESS TRANSITION	1	2	3	4	
OTHER _____	1	2	3	4	
__ Managing human relations on the farm					
STRESS MANAGEMENT	1	2	3	4	108 to 114
COMMUNICATION	1	2	3	4	
RESOLVING CONFLICT	1	2	3	4	
RETIREMENT PLANNING	1	2	3	4	
LABOR MANAGEMENT	1	2	3	4	
OTHER _____	1	2	3	4	
__ Other					
HOME BASED BUSINESS	1	2	3	4	115 to 123
FARM DIVERSIFICATION	1	2	3	4	
MANAGING WILDLIFE SPECIES	1	2	3	4	
PROTECTIVE CLOTHING	1	2	3	4	
ENVIRONMENTALLY FRIENDLY PRODUCTION METHODS	1	2	3	4	
ANIMAL WELFARE	1	2	3	4	
FOOD AND ENVIRONMENTAL SAFETY	1	2	3	4	
SUSTAINABLE LIVESTOCK PRODUCTION	1	2	3	4	

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12. What is your current position in Alberta Agriculture : (Circle one) 124

1. DHE
2. DA
3. SPECIALIST
4. OTHER _____

13. How long have you been on staff with Alberta Agriculture ? (Circle one) 125

1. 1 - 5 YEARS
2. 6 - 10 YEARS
3. OVER 10 YEARS

14. Do you have any other comments on the Home Study program ?

_____

_____

_____

_____

THANK YOU FOR YOUR COOPERATION !

After completing the questionnaire, please enclose it in the self-addressed envelope and send through courier mail immediately.

Appendix B - Learning Style Instrument

LSI

LEARNING-STYLE INVENTORY

McBER & COMPANY

Name: _____

Position: _____

Organization: _____

Date: _____

Inventory

McBer & Company
Training Resources Group
137 Newbury Street
Boston, Massachusetts 02116
(617) 437-7080

Learning-Style Inventory: Instructions

The Learning-Style Inventory describes the way you learn and how you deal with ideas and day-to-day situations in your life. Below are 12 sentences with a choice of four endings. Rank the endings for each sentence according to how well you think each one fits with how *you* would go about learning something. Try to recall some recent situations where you had to learn something new, perhaps in your job. Then, using the spaces provided, rank a "4" for the sentence ending that describes how you learn *best*, down to a "1" for the sentence ending that seems *least* like the way you would learn. Be sure to rank all the endings for each sentence unit. Please do not make ties.

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